

187

BROWN'S SIGNALLING

HOW
TO LEARN

THE INTERNATIONAL CODE OF SIGNALS

ALL METHODS
OF SIGNALLING
EXPLAINED



10/- NET

BROWN'S SIGNALLING

BROWN'S
SIGNALLING
HOW TO LEARN THE
INTERNATIONAL CODE
OF VISUAL AND SOUND SIGNALS

Based on Information contained in Vol. I. of the 1931
International Code of Signals

BY

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in collaboration, of "Modern Chartwork"*



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INTRODUCTION.

THE 1931 International Code of Signals, Vol. 1, Visual, is designed to meet the normal peace-time requirements of merchant vessels, and provides the standard means of communication between ship and ship, and between ship and shore or aircraft.

It was brought into International use on 1st January, 1934, and is published in seven standard editions, viz., English, French, German, Italian, Japanese, Norwegian and Spanish.

Brown's Signalling contains all the instructions relative to visual and sound signalling, and it has been compiled in such a manner that it provides a progressive course of study for those who desire to acquire proficiency in modern signalling, the subjects being arranged in the order best suited for that purpose.

The arrangement of the groups is the same as in Vol. 1 of the Code. A distinctive feature, and one which will be greatly appreciated, is the insertion of sufficient Code groups to admit of practice in the coding and decoding of messages. Numerous questions, with answers, relating to all forms of signals incorporated in the code, are given, along with coloured plates showing a complete set of signalling flags and the principal types of hoists.

This book is frequently revised to ensure it is up to date in all respects. During the present revision the opportunity has been taken to amplify certain explanations, and to insert additional Code Groups.

NOTE.—Certain official matter in this book is taken from *The International Code of Signals* by permission of the Controller of H.M. Stationery Office, London.

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NATIONAL COLOURS



Union Flag



White Ensign



Blue Ensign



Royal Air Force



Red Ensign



Pilot Jack



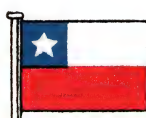
Argentine



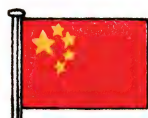
Belgium



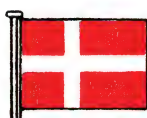
Burma



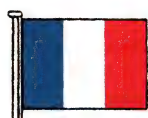
Chile



China



Denmark



France



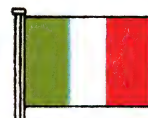
Greece



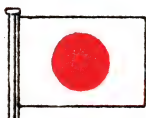
Holland or
Netherlands



India



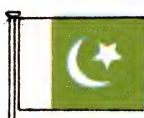
Italy



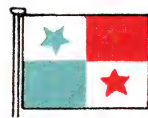
Japan



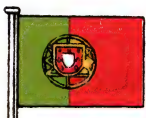
Norway



Pakistan



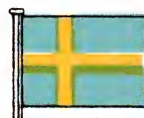
Panama



Portugal



Spain



Sweden



United
States



U.S.S.R.

INTERNATIONAL CODE OF SIGNALS

CODE FLAG		AND ANSWERING PENDANT	
A		B	
C		D	
E		F	
G		H	
I		J	
K		L	
M		N	
O		P	
Q		R	
S		T	
U		V	
W		X	
Y		Z	

NUMERAL PENDANTS.

1		2		3		4		5	
6		7		8		9		0	

SUBSTITUTES.

FIRST SUBSTITUTE		SECOND SUBSTITUTE		THIRD SUBSTITUTE	
---------------------	--	----------------------	--	---------------------	--

BROWN'S SIGNALLING.

CHAPTER I.

DESCRIPTION OF FLAGS—DEFINITIONS

Signals are conventional signs or symbols which, when exhibited singly or collectively, convey information, and the process employed in making the signs is termed signalling. The Mediums generally used are flags, shapes, light and sound, the system adopted varying according to circumstances.

In the following pages, visual and sound signalling will be explained beginning with flags.

Each letter of the alphabet can be represented by a flag which, when hoisted, may be read as the letter it represents, or convey particular information. In the latter case it is necessary to have a Code to which reference can be made to obtain the import of the signal. Obviously where a Code is employed the signal need not be confined to one flag, otherwise the Code would be restricted to 26 messages.

Where two different flags are used to form the signal 650 combinations are available for messages, and if three different flags comprise the signal 15,600 combinations may be utilised.

As already mentioned in the Introduction, the International Code of Signals is designed to meet the normal requirements of Merchant vessels. It is International in character in so far that it is printed in seven different languages, enabling those on ships of different nationality to communicate or converse with each other although entirely ignorant of each other's language.

The British Edition of the 1931 International Code of Signals consists of two volumes, Volume I for Visual and Sound Signalling, and Volume II for Radio Signalling.

This book deals with Volume I, which, while mainly for the use of ships, also provides a number of signals for the use of aircraft.

A complete set of signal flags consists of 26 alphabetical flags, 10 numeral pendants, 3 substitutes, and the answering pendant.

On Plate 2 the flags of the International Code are given in colour. Each of the flags should be memorised so that they may be recognised at a glance.

Before proceeding further, it will be expedient to describe the flags of the Code and define certain terms used in the process of signalling.

ALPHABETICAL FLAGS.

A is a burgee, one of the only two burgees in the International Code. It is white and blue, divided vertically. The white half is next to the mast (or at the hoist), the blue half is at the fly, which is swallow-tailed.

B like A is a burgee; it is all red.

The remaining flags of the alphabet are rectangular in shape.

C is divided horizontally with blue, white, red, white and blue bars.

D is a yellow flag with a central broad horizontal blue stripe.

E flag is blue in the upper half and red in the lower half.

F is a white flag with a red diamond whose corners touch the edges of the flag.

G flag is divided vertically with yellow and blue bars, yellow at the hoist, blue at the fly.

H is white and red divided vertically, the white at the hoist and the red at the fly.

I is a square yellow flag with a black ball in the centre.

J flag is blue, white and blue, divided horizontally (white stripe in centre).

K flag is yellow and blue divided vertically, yellow at the hoist, blue at the fly.

- L flag is yellow and black quartered, yellow at the upper hoist, yellow at lower fly.
- M is a blue flag with a white St. Andrew's Cross.
- N is a blue and white chequered flag. It has sixteen squares, the square in the upper hoist and lower fly being blue.
- O flag is yellow and red divided diagonally, yellow at hoist and red at fly and upper edge.
- P is a blue flag with a white square in centre.
- Q is a square yellow flag.
- R is a red flag with a yellow St. George's Cross.
- S is a white flag with a blue square in centre.
- T is a tricolour flag, red, white and blue, red at hoist, blue at fly.
- U is a red and white quartered flag, red at upper hoist and at lower fly.
- V is a white flag with a red St. Andrew's Cross.
- W is a white flag with a blue border, red square in centre.
- X is a white flag with a blue St. George's Cross.
- Y is a flag with five yellow bars intersected with five red bars diagonally placed, yellow at upper hoist, red at lower fly.
- Z is a black, yellow, blue and red flag, quartered diagonally, black at mast, blue at fly, red beneath, yellow on high.
- Code and Answering Pendant. Red and white stripes vertically placed, red at hoist, red at fly.

NUMERAL PENDANTS

- No. 1 White with a red ball in the centre.
- No. 2 Blue with a white ball in the centre.
- No. 3 Red at hoist, white in the centre, blue at the fly.
- No. 4 Red with white St. George's Cross.
- No. 5 Yellow at the hoist, blue at the fly.
- No. 6 Black upper half, and white lower half.
- No. 7 Yellow upper half, and red lower half.
- No. 8 White with a red St. George's Cross.

- No. 9 White, red, black and yellow quartered, white and red at upper and lower hoist respectively, black and yellow at upper and lower fly respectively.
- No. 0 Yellow at hoist and fly, red in centre.

SUBSTITUTES.

Substitutes are triangular in shape.

First Substitute—Yellow triangle with blue border.

Second Substitute—Blue and white, blue at the hoist, white fly.

Third Substitute—White with black horizontal stripe.

DEFINITIONS.

Visual Signalling—Refers to any mode of transmission which is capable of being seen.

Sound Signalling—Refers to the sending of Morse signals by means of the whistle, siren, fog-horn, bell or other sound apparatus.

Message—Denotes any form of communication.

Coded Message—The text consists of figures or letters instead of ordinary words.

Transmitting Ship, or Station—Is the ship (or station) by which a message is actually being made.

Receiving Ship, or Station—Is the ship (or station) by which a message is actually being read.

Procedure—Denotes the rules drawn up for the conduct of signalling.

Procedure Signal—A signal designed to facilitate the conduct of signalling.

Group—Denotes one or more contiguous letters and/or numerals which in themselves compose a separate signal.

Numeral Group—Consists of one or more numerals.

Hoist—Consists of one or more groups displayed from a single halyard.

At the Dip—This is the position of a signal when hoisted about half the extent of the halyards.

Close Up—A signal is close up when hoisted the full extent of the halyards.

Tackline—A length of halyard about 6 ft. long. It is used to separate two groups of flags.

CHAPTER II.

TYPES OF SIGNALS—SIGNAL LETTERS.

A SIGNAL may consist of one, two, three or four flags, and in certain cases five flags. The nature of the signal can usually be determined from either (a) the number of flags in the group, (b) the type of flags which compose the group (i.e. alphabetical or numeral), (c) the upper flag.

Single-letter Signals.

To each letter of the alphabet, when flown singly, is allotted a meaning of special significance. For instance, A signifies "I am undergoing a speed trial"; B indicates "I am taking in or discharging explosives"; G—"I require a pilot." A complete list of single-letter signals is given on page 71. It will be observed that only those marked with an asterisk should be used by flashing. Towing signals, see page 127, are also single-letter signals, and are only to be used when towing or being towed.

Two-letter Signals.

Two-letter signals are reserved, more or less, for signals relating to distress, navigational warnings, and the handling of ships and aircraft. Many are of very common use. Two-letter signals of special importance, and which should be committed to memory, are:

JD signifying "You are standing into danger."

NC ,, "I am in distress and require immediate assistance."

PT ,, "I require a pilot."

Certain quarantine signals which should be memorised are also two-flag signals, see page 125.

Three-letter Signals.

Three-letter groups cover signals relating to Points of Compass, Relative Bearings, Standard Time, Model Verb Section, and what may be described as a General Vocabulary Section. Extracts from the Code showing three-letter groups are given on pages 100 to 121.

Four-letter Signals.

Four-letter signals relate to geographical signals or the signal letters of ships. All geographical signals have A as the upper flag in the group, and therefore can be distinguished from ship's signal letters.

Five-letter Signals.

The signal letters for aircraft consist of a group of five letters.

Distress Signals.

Distress signals, the importance of knowing which cannot be too strongly emphasised, are given on page 124. They consist of signals made by gun or other explosive signal, by sound apparatus, radio-telegraphy, rockets or shells, and flags.

Distance
signal



or



In distress and
require immed-
iate assistance

Signal Letters.

Ships: The signal letters of a ship consist of four letters which have been allocated to her for identification purposes. A ship's signal letters are the same as her radio call sign. The nationality of a ship can be determined from the first, or the first two letters.

In the case of ships not fitted with wireless, signal letters are allotted to them from the appropriate radio call sign series, as determined by the International Radio-telegraph

Regulations. The signal letters of British ships can be found in the publication, *Signal Letters of British Ships*.

Aircraft: The signal letters for aircraft consist of five letters and are the same as their radio call signs. The nationality of the aircraft is determined by the first letter or first two letters of the group. The "nationality marks" are made into signal letters or registration marks by adding three or four letters to complete the group to five letters.

In civil aircraft the five-letter group is painted on the lower surface of the main plane and also on each side of the fuselage. A hyphen separates the "nationality mark" from the remaining letters.

A table showing the International allocation of initial letters of signal letters, call signs and aircraft markings is given on page 128.

Signal letters are used to:—

- (1) Speak to, or call, a ship, aircraft or station.
- (2) Speak of, or indicate, a ship, aircraft or station.

With regard to (1) when speaking to, or calling, a ship the signal letters of the ship being called precede the signal.

With respect to (2) when speaking of, or referring to, a ship the signal letters of the ship indicated follow the signal.

For instance, suppose the signal letters of the SS. *Baron Forbes* are GBMR and those of the SS. *City of Exeter* GQZW and the Code group EA signifies:—"I will stand by you, or vessel indicated," the signal GBMR-EA would mean:—

To *Baron Forbes*, "I will stand by you."

The signal GBMR-EA-GJRN would mean:

To *Baron Forbes*, "I will stand by *British Captain*."

With regard to the second signal, GJRN, the signal letters of the *British Captain* is a complementary group and must be signalled after the signal to which it refers.

When a ship's name occurs in the text of a coded message, it is to be expressed by her signal letters.

CHAPTER III.

THE USE OF NUMERAL PENDANTS—THE USE OF SUBSTITUTES.

THE numeral pendants are, as their designation implies, to be used exclusively for the signalling of numbers. Being pendant-shaped, they are easily distinguished from the alphabetical flags and therefore do not require any additional signal to indicate they represent numbers. The numeral pendants are **ten in number**, and when used in conjunction with substitutes are available for signalling any number.

When the number being signalled contains a decimal, the answering pendant is to be inserted where it is desired to express the decimal point.

It will be necessary to use the numeral pendants when signalling positions, i.e. latitude and longitude, times, courses and bearings, and distances. The procedure to be adopted in each of those cases will now be explained.

Latitude and Longitude.—The hoist consists of four numeral pendants preceded and joined by the letter P. The first two figures indicate degrees, and the second two, minutes. Thus P1240 would read $12^{\circ} 40'$. Latitude and longitude will require two hoists, the first hoist representing latitude and the second longitude.

Example—P5624, P3025, would indicate Latitude $56^{\circ} 24'$, Longitude $30^{\circ} 25'$.

In visual signalling, it will seldom be necessary to signify North or South Latitude, East or West Longitude.

Occasions may arise in the vicinity of the equator, the 0° or 180° meridians, when it will be necessary to indicate the hemis-

phere. In such cases, to avoid confusion, the flags N or S representing North or South, E or W indicating East or West, are as the circumstances warrant, to be added to the latitude and longitude groups respectively.

Example—P0010 N, P0045 E, would read Latitude 00° 10' North, Longitude 00° 45' East.

When it is required to signal a longitude degree of three figures, the first figure is to be omitted in order to preserve the form of a four-figure group. Confusion should not arise in such cases, as vessels within signalling distance of each other should know their approximate longitude—at least within 100° of it.

Example—A vessel, by visual signalling, wishing to signal her longitude of 135° 20' to another vessel would hoist P3520.

It is to be understood, however, that it is permissible to increase the hoist to a five-figure group in circumstances where the recommended form would give rise to confusion.

A numeral group preceded by the letter P, as shown above, is designated a *Position Signal*.

Times.—Times, when signalled, are to be expressed in the 24 hours notation under which system midnight is 00 hours, and the following hours are reckoned continuously up to 23 hours.

Examples— 1.30 a.m. is to be expressed as 0130

10.15 a.m.	„	„	1015
2.30 p.m.	„	„	1430
5.45 p.m.	„	„	1745
11.20 p.m.	„	„	2320
Midnight	„	„	0000

Thus hours and minutes can be signalled by a group of four numerals, the first two numerals indicating hours and the second two minutes. This group is to be preceded and joined by the letter T, forming a single group.

Thus T1430 would indicate 1430 hours or 2.30 p.m.; 7.50 a.m. would be signalled T0750.

A numeral group preceded by the letter T, as shown on p. 17, is designated a *Time Signal*.

It is sometimes desirable to attach a "Time of Origin" at the end of a message. Such time should be given to the nearest minute and expressed by four figures. It indicates when the message originated and forms a convenient reference number.

Courses and Bearings.—All courses and bearings when being signalled are to be expressed in the three-figure notation under which system North is 000° and the remaining degrees are reckoned clockwise continuously up to 359° . Thus N. 8° E. is 008° . N. 8° W. is 352° , S. 40° E. is 140° , S. 80° W. is 260° . Such courses and bearings are to be considered *true* unless, of course, expressly stated to be *magnetic*. For instance, S. 50° W. magnetic would be signalled 230° magnetic.

Courses.—A course is to be signalled by a group of three numeral pendants. Such group will be preceded by a group from the Code.

In the Code, the group JM signifies "I am altering course, *at, to*" and the group IXU signifies "magnetic."

Hence the hoists JM and 125 would read "I am altering my course to 125° true."

The three groups JM, 125, IXU would read "I am altering my course to 125° magnetic."

Bearings.—When signalling bearings the three numeral pendants are to be preceded by, but joined with, the letter X to form a single group.

Thus X125 signifies bearing 125° true.

In the Code, the group GN signifies "You should steer directly for the buoy."

The hoists GN, X125 would read "You should steer directly for the buoy bearing 125° true."

A numeral group preceded by the letter X, as shown above, is designated a *Bearing Signal*.

Bearings made by a ship pointing out an object or referring to a

position are always to be reckoned *from* the ship making the signal or *from* the point of departure, *i.e. invariably towards the object*.

Relative bearing is the direction with reference to the fore and aft line of the vessel from which the bearing is taken.

Distances.—When it is desired to give a position by bearing and distance from a point, the following is the sequence of the groups:—

Bearing from, distance from point.

Example.—A position 25 miles S. 40° W. true from Cape Horn would be signalled X220°—25—AHIQ, AHIQ being the geographical group for Cape Horn.

The distance is to be expressed in miles. If any other unit is used, a group from the Code denoting the unit must immediately follow the numeral group.

When signalling by Code a message which contains numbers, the numeral group must be sent separate from the Code group. This rule, however, does not apply to position signals, time signals, or bearing signals, which are respectively preceded by, and joined with, the letters P, T and X.

THE USE OF SUBSTITUTES.

Substitutes are to be employed when the composition of a Code group, or Numeral group, contains a repetition of a letter or figure respectively. For instance, in the Code the group DDD signifies "I require a chart of"

Without the aid of substitutes, it would be necessary to carry three sets of Code flags before this signal could be made. Again, to signal 1000, three sets of Numeral pendants would be required if recourse were not made to substitutes.

The three substitutes will render it possible to signal any combination of four letters or four figures.

Substitutes are triangular in shape to avoid confusion with alphabetical flags or the numeral pendants. They are to be

referred to as first substitute, second substitute, and third substitute.

In the International Code of Signals there are two classes of flags, alphabetical flags and numeral pendants. *A substitute is used to repeat a flag of the same class that immediately precedes it.* In other words, if a substitute immediately follows an alphabetical flag, or flags, it repeats one of the flags. If it immediately follows a numeral pendant, or numeral pendants, it repeats one of the pendants.

The following rules are to be adhered to.

1. The **first substitute** always repeats the uppermost signal flag of that class of flags which immediately precedes the substitute.

2. The **second substitute** always repeats the second signal flag counting from the top of that class of flags which immediately precedes the substitute.

3. The **third substitute** always repeats the third signal flag counting from the top of that class of flags which immediately precedes the substitute.

4. No substitute can ever be used more than once in the same group.

5. The answering pendant when used as a decimal point is to be disregarded in determining which substitute to use.

The following examples will illustrate the use of substitutes:

Example—In the Code book the geographical groups AATC, AFFE, AMTT signify Arbroath, Eddystone and Port Said respectively. They would be signalled as follows:—

(1)	(2)	(3)
Alphabetical Flag A	Alphabetical Flag A	Alphabetical Flag A
First substitute	„ „ F	„ „ M
Alphabetical Flag T	Second substitute	„ „ T
„ „ C	Alphabetical Flag E	Third substitute

In (1) the uppermost flag is to be repeated, hence the first substitute is used.

In (2) the second flag, counting from the top, is to be repeated, hence the second substitute is used.

In (3) the third flag, counting from the top, is to be repeated, hence the third substitute is used.

Example—In the Code book the group AACA signifies Cape Adair. It would be signalled as follows:—

A
First substitute
C
Second substitute

Particular attention is to be directed to the reason for using the second substitute to signal to last A of the group. The reason is twofold. In the first place the first substitute has already been used and by rule 4, given on page 20, cannot be used again. Further, the *second* substitute repeats the *second* flag from the top, in this case A.

Example—In the Code book, the group AALL signifies R, Amazon. It would be signalled as follows:—

A
First substitute
L
Third substitute

The first substitute repeats the uppermost flag. The *third* substitute repeats the *third* flag of the group counting from the top.

As before mentioned, when signalling numerals involving the use of substitutes, the same rules as apply to alphabetical flags are to be observed.

Example—It is required to signal the number 1001. It is to be signalled as follows:—

Numeral pendant	1	=	1
„	„	0	= 0
Second substitute		=	0
First substitute		=	1

The second substitute repeats the second flag counting from the top, in this case numeral pendant 0. The first substitute repeats the first flag of the group, in this case numeral pendant 1.

Example.—It is required to signal the following position Latitude 20° 30', Longitude 40° 00'. The hoists would be as follows:—

1st Hoist		2nd Hoist	
Alphabetical Flag	P	Alphabetical Flag	P
Numeral pendant	2	Numeral pendant	4
„ „	0	„ „	0
„ „	3	Second substitute	
Second substitute		Third substitute	

It is to be observed that in each of the above hoists two classes of flags are employed. Bearing in mind, however, that a substitute *repeats a signal flag of the same class as that immediately preceding it*, the substitutes in the above groups refer to the numerals contained therein and not to the alphabetical flag. In the first hoist, the second substitute repeats the second numeral of the hoist, *i.e.* 0. In the second hoist, the second and third substitutes repeat the second and third numerals respectively in the hoist, *i.e.* 0 and 0.

Example—To signal 15·5.

Numeral pendant	1 = 1
„ „	5 = 5
Answering pendant	= · (decimal)
Second substitute	= 5

Example—To signal 3·55.

Numeral pendant	3 = 3
Answering pendant	= · (decimal)
Numeral pendant	5 = 5
Second substitute	= 5

Note that the answering pendant, used to express the decimal point, is disregarded when determining which substitute to use.

CHAPTER IV.

ALPHABETICAL SIGNALS.

THE following course is to be adopted whenever names occur in the text of a message being signalled by flags. The names are to be spelt out by means of alphabetical signals given below.

Signal	Signification
Answering pendant over E	Alphabetical signal No. 1, indicating that the letters hoisted after it until alphabetical Signal No. 3 is made, do not represent signals in the Code, but are to be understood as representing letters of the alphabet spelling a word
Answering pendant over F	Alphabetical Signal No. 2, indicating the end of a word being spelt or dot between initials
Answering pendant over G	Alphabetical Signal No. 3, indicating that the spelling of words is completed; the signals which follow are to be looked out in the Code in the usual manner

Under this arrangement every flag hoisted after alphabetical signal No. 1 has been made, and until Alphabetical Signal No. 3 is made, represents the letter of the alphabet which has been allotted to it in the Code. As each of the 26 letters of the alphabet is represented by a flag, any word can be spelt by this system. It is to be observed that when occasion arises substitutes are to be utilised in the manner already described.

Example—The message “Please inform owner—William Kin near, 37 Ferry Street, Hull—expect to arrive Glasgow, 2nd July,” would be signalled as follows:—

1st Group	HRB (from Code)	=	Please inform owner
2nd	„ Answering pendant E	=	Letters which follow are alphabetical
3rd	„ WIL third substitute	=	WILL
4th	„ IAM	=	IAM
5th	„ Answering pendant F	=	End of word
6th	„ KIN third substitute	=	KINN
7th	„ EAR	=	EAR
8th	„ Answering pendant G	=	End of spelling
9th	„ 37	=	37
10th	„ Answering pendant E	=	Letters which follow are alphabetical
11th	„ FER third substitute Y	=	FERRY
12th	„ Answering pendant G	=	End of spelling
13th	„ OHK (from Code)	=	Street
14th	„ AHLE „	=	Hull
15th	„ BIR „	=	Expect to arrive
16th	„ AGJV „	=	Glasgow
17th	„ MZQ „	=	2nd
18th	„ HZF „	=	July

CHAPTER V.

ARRANGEMENT OF CODE BOOK—THE MODEL VERB— PUNCTUATING AND AMPLIFYING PHRASES—EXAMPLES OF CODING AND DECODING.

THE arrangement of the International Code Book is similar to that on pages 71 to 130, which contain extracts from the Code Book. First, there are single-letter signals followed by two-letter signals, then three and four letters signals.

It is important to note the special arrangement of the basic words and code groups. Both are arranged alphabetically thus permitting the one volume to be used as a Code and Decode.

There is an additional part under the heading of Decode. This part contains, at the beginning, page, 119 English synonyms bracketed together for which duplicate translations cannot be found in other languages. The remaining part, extracts of which are given, contains groups given in Foreign Codes and will only be used when decoding messages from ships or stations not using the English Edition of the Code.

Proficiency in coding and decoding of messages can only be acquired by practice and a good knowledge of the Code.

Phrases and Sentences.—These are given in the Code under the chief word which they contain. Thus the phrase "Navigation is dangerous owing to" will be found under the word "Danger", and the sentence "I am waiting for orders" is given under the word "Order".

When two important words occur in the message it is desired to make, look under both words for a suitable expression to

fulfil the meaning of the message. In some instances the same sentence is given under different words. Thus "Land is totally obscured by fog" is given under "Land" and "Fog".

Root Words.—Except when qualified, root words, *i.e.* those from which others are derived, are printed in heavy type.

Qualified Words.—Such words are printed in heavy type without a Code group and are repeated below in ordinary capitals with their qualifications in brackets. For instance, we have:—

CABLE

- (1) **CPY** CABLE,S (Chain)
- (2) **CQL** CABLE,S (200 yards)
- (3) **CQN** CABLE,S (Electric)

The qualifications in brackets indicate the sense in which the word CABLE is to be used;

- (1) would be used when referring to a ship's cable
- (2) would be used when indicating distance
- (3) would be used when relating to a submarine or telegraph cable.

Alternatives.—Many of the words and phrases have alternatives attached to them. These are printed in roman type and separated from the word or phrase to which they apply by a comma. Thus:—

LWL **RAPID**, ly, ity.

The ly and ity, printed in roman type indicate that "rapidly" and "rapidity" are alternatives to the word "rapid".

Optional Words.—As the term implies the use of these words is optional, and they are distinguished in the code by being printed in *Italics* and separated by a comma. Thus:—

NFH Shipped—*Has, Have, ing*

The words *Has, Have, ing*, being printed in italics, their use is optional. Thus the group NFH may be used to indicate

- (1) Shipped
- (2) Has shipped
- (3) Have shipped
- (4) Having shipped

Alternatives and Optionals. By the insertion of alternatives and optionals the range, usefulness and indeed completeness of the Code is achieved without the compilation of a vast number of groups and consequent bulk of the Code book. One Code Group may signify a number of expressions. Thus:—

BWI True bearing,s *of*

may be used to signal

- (1) True bearing
- (2) True bearings
- (3) True bearing of
- (4) True bearings of

Verbs.—Verbs are printed in the Code in the following form:—

- (1) **HEAVE**, s, in
Heaving in—*Am, Is, Are*
- (2) Heaved in—*Has, Have, ing.*

In (1) the imperative and present indicative tenses are given under one Code group, and care must be exercised to prevent any ambiguity arising in the decode of a message through the insertion in this form.

For example— **HDM** **HEAVE**,s in
Heaving in—*Am, Is, Are*
CPY CABLE,s (Chain)

The above signal may be decoded as:—

- (1) Heave in cable
- (2) Am heaving in cable

and thus the decoder would be at a loss to understand the purport of the message.

If it is desired to signal the message as in (1) it can be done as follows. Prefix to the above groups one of the following:—

- (a) Group **QZA** You should
- (b) Group **LBE** Please
- (c) Group **ADW**, from Model Verb Section, signifying an order.
- (d) Group **AGV**, from Punctuation and Amplifying Phrases, which signifies “Group which follows is an order.”

If, however, (2) is the sense in which it is intended the message should be decoded, then the first group of the signal should be

HJI I (self)

THE MODEL VERB

In order to facilitate the coding of verbs in the affirmative, negative, or interrogative, a special section is provided, see pages 102 to 105, in which the model verb *glean* is used.

The verb *glean* has been specially chosen because on account of its meaning it seldom if indeed ever, will occur in a signal.

When using the model verb section, *glean* is not to be written down as part of the signal, but in its place insert the verb in the text of the signal.

Consider the following sentences:—

- (1) We have distributed oil
- (2) We have not distributed oil
- (3) Will we distribute oil

They contain, in past and future tense, the verb distribute and are, respectively, of an affirmative, negative, and interrogative nature. The model verb section could, therefore, be used to make such signals.

Thus—

- | | | | |
|-----|------------|---|-------------|
| (1) | AEJ | = | We have |
| | FCQ | = | Distributed |
| | KBR | = | Oil |
| (2) | AFJ | = | We have not |
| | FCQ | = | Distributed |
| | KBR | = | Oil |
| (3) | AGN | = | Will we |
| | FCP | = | Distribute |
| | KBR | = | Oil |

Hoists **AEJ**, **AFJ** and **AGN** being taken from the model verb section.

First consult the appropriate section, *i.e.* Affirmative, Negative or Interrogative, for the required phrase and note the corresponding group. Now enter the body of the Code for the required verb to complete the signal.

Example—The message “Do I notify owner” is of an interrogative nature, and contains the verb notify.

In the Model Verb Interrogative Section, the group **AFW** signifies “Do I *glean*”. The above message could be coded—

AFW	=	Do I <i>glean</i>
JWC	=	Notify
KLQ	=	Owner

Example—

AGJ	=	Did you <i>glean</i>
		Have you <i>gleaned</i>
KPK	=	Pass,es (Goes or Goes <i>past</i>),
GQVM	=	SS. <i>Hilary</i>
PBP	=	Today

Decode.—Did you pass SS. *Hilary* to-day?

PUNCTAUTION AND AMPLIFYING PHRASES.

The object of the Punctuation and Amplifying Phrases is to make the sense of a message clear to the recipient, to remove any doubt or uncertainty that may appear to be present in the decode of the accompanying groups, and to increase the scope of the Code.

The groups for such phrases are given on Page 105 and on examination their purpose will be evident.

The groups "AGQ FULL STOP" and "AGR QUESTION MARK" when inserted in a series of groups forming a message, will ensure a clear understanding of the purport of the message.

The following examples will illustrate the usefulness of the groups.

Example.—In the Punctuation and Amplifying Phrases, the group AGW signifies "Group which follows is a question".

In the Code, the group EU signifies "Bar is dangerous."

Hence, if the group AGW is hoisted superior to the group EU, the latter should be decoded as "Is bar dangerous" and not as "Bar is dangerous", *i.e.* the phrase as given in the Code book is to be written down in the form of a question.

Example.—Group AGT signifies "The following is a request" and group BYK signifies "Good Berth."

Therefore the meaning of hoists AGT, BYK would be "I request a good berth."

Example.—In the Punctuation and Amplifying Phrases, AGY signifies "Group which follows is to be read in the negative." In the Code, group LVE signifies "You should use radio."

Hoists AGY, LVE would denote "You should not use radio."

Example.—AHA signifies group which follows is to be read in the SINGULAR.

SK signifies "I wish to land passengers." Thus the decode of the hoists AHA, SK is "I wish to land a passenger."

EXAMPLES OF CODING.

Example—Suppose it is required to make a signal to the effect that your vessel is disabled through stripped turbine blades, and that a tug will be required to berth the vessel.

The most important words of the communication are—Disabled, Turbine, and Tug.

Turn up **DISABLE** in the Code, and consult the phrases and sentences gives under that heading. We find the group **PLI** signifies, "Turbine blading is stripped. I am disabled."

Under **Tug**, in the Code, the group **XW** signifies "I require a tug to tow me to berth."

Hence the signal **PLI, XW**, when decoded, would convey the information it is desired to transmit.

Example.—The SS. *City of Agra* (signal letters GRBC) wishes to report her expected time of arrival which is, say, at 3.40 p.m. on Wednesday.

Arrival is, undoubtedly, the chief word. Under **ARRIVE**, in the Code, is given group **BIS**—"I, or vessel indicated, expects, to arrive, *at, on*". For Wednesday, the group is **QJH**. The message could therefore be coded thus—

BIS = I, or vessel indicated, expect,s to arrive *at,*
on,

GRBC = SS *City of Agra*

T1540 = 1540 hours

QJH = Wednesday

The decode would be: "SS. *City of Agra* expects to arrive at 1540 hours on Wednesday."

Particular attention should be directed to the first two groups. The ship's name is complementary to the first group and therefore as stated on page 15 must follow the first group.

Example—It is required to report the position of an anchor lost, say, 6 miles S.E. from the North Foreland.

Under **POSITION**, and also **ANCHOR**, in the Code, is given group **LFH** signifying "Position of lost anchor is . . ." Bearing in mind the instructions given on page 19 relative to the giving of a position by bearing and distance from a point, the complete signal would be:—

LFK = Position of lost anchor is
X135 = 135°
6 = 6 miles
AFX 1st sub. = North Foreland

The decode would be "Position of lost anchor is 135° 6 miles from North Foreland".

Example—It is required to issue an order to a vessel not to explode a mine. Now explode is a verb, and in the Model Verb Section is the group **AEW** "Do not *glean*" (An order). The groups for explode and mine can be taken from the Code.

The coded message is—

AEW = Do not *glean* (An order)
FWJ = Explode,s
 Exploding—*Am, Is, Are*
JIV = Mine,s (Explosive)

Decode:—Do not explode mine.

Example—Will you telegraph owners we sail at 1530 hours ?

AGO = Will you *glean*
OTB = Telegraph
 Telegraphing—*Am, Is, Are*
KLQ = Owner,s
ADZ = We *glean*
MUO = Sail,s *at, on* (Depart)
T1530 = 1530 hours

Example—SS. *Silverpine* (signal letters GKFZ) desires to signal her present position which is Latitude 42° 20, N., Longitude 35° 30, W. It is signalled as follows:—

LF 1st sub. = Present position, *of*
 GKFZ = SS. *Silverpine*
 P42 2nd sub. 0 = 42° 20,
 IGD = North Latitude
 P35 1st sub, 0 = 35° 30,
 IVP = West Longitude

Example—The following is a specimen decoded message:—

Code group	Signification
OIH	Struck— <i>Has, Have, ing</i>
OJB	Submerged— <i>Has, Have, ing</i>
JXN	Object,s (Thing)
LET	In position
P5120	51° 20,
IGD	North Latitude
P1530	15° 30,
IVP	West Longitude
AGQ	Fullstop
HGH	Holed— <i>Has, Have ing</i>
GLD	Forepeak
AGQ	Fullstop
QDW	Keep,s water under
	Keeping water under— <i>Am, Is, Are</i>
DYM	Control,s
	Controlling— <i>Am, Is, Are</i>
AGQ	Fullstop

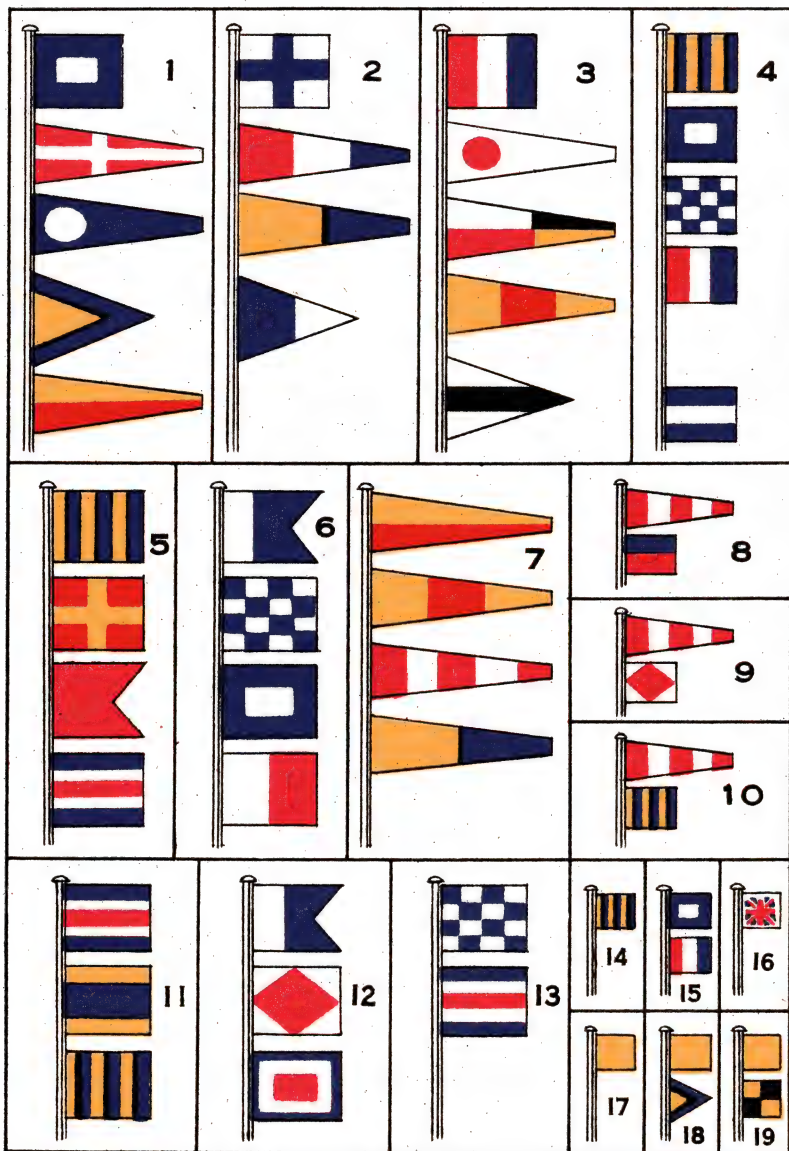
Code group	Signification
OCZ	Steer,s <i>for, towards</i> Steering, <i>for, towards</i> — <i>Am, Is, Are</i>
ANAF	Queenstown
AGQ	Fullstop
BIS	I, or vessel indicated, expect, to arrive, <i>at, on</i>
T1230	1230 hours
PKK	Tuesday,s
AGQ	Fullstop
FDS	I, or vessel indicated, will have to dry dock to repair damage

Message:—

Struck submerged object in position Latitude 51° 20, N., Longitude 15° 30, W. Holed forepeak. Keeping water under control. Steering for Queenstown. I expect to arrive at 12.30 Tuesday. I will have to dry dock to repair damage.

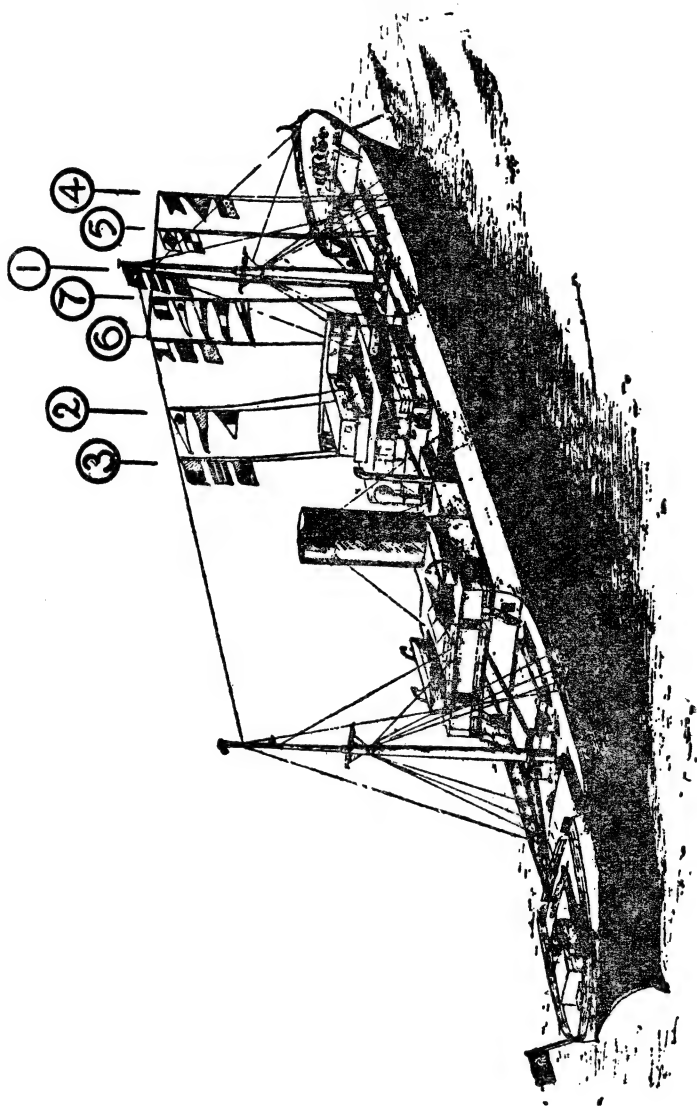
INTERNATIONAL CODE OF SIGNALS

PRINCIPAL TYPES OF HOISTS



KEY TO PLATE 3.

- No. 1 Position signal: Consists of numeral group preceded by the letter P. It reads 42° 47'.
- No. 2 Bearing signal: Consists of numeral group preceded by the letter X. It reads bearing 355°.
- No. 3 Time signal: Consists of numeral group preceded by the letter T. It reads 1900 hours.
- No. 4 Ship's signal letters tackline J: Signifies that ship displaying hoist desires to communicate by semaphore with vessel whose signal letters are GPNT.
- No. 5 Ship's signal letters: Upper flag being G indicates a British ship.
- No. 6 Geographical signal: All geographical signals have flag A uppermost.
- No. 7 Numeral signals: Consists entirely of numeral pendants, Answering pendant indicates decimal point. It reads 70·5.
- No. 8 Alphabetical signal No. 1: See explanation on page 23.
- No. 9 " " No. 2: " "
- No. 10 " " No. 3: " "
- No. 11 Three-letter signal from General Code.
- No. 12 " " Model Verb Section.
- No. 13 Two-letter signal: Signifies "I am in distress and require immediate assistance."
- No. 14 Single-letter signal: Signifies "I require a pilot."
- No. 15 Two-letter signal: " " "
- No. 16 Pilot Jack: Hoisted at the fore signifies "I require a pilot."
- No. 17 Quarantine signal: For signification, see page 125.
- No. 18 " " " "
- No. 19 " " " "



CHAPTER VI.

**Positions for Hoists—How to Call—How to Answer Signals—
How to Complete Signal—When Signals are not Understood—
Communication by Local Signal Codes—Communication by
Flags between Men-of-War and Merchant Vessels—
Questions Relating to Flag Signalling—Answers.**

SIGNALS should always be hoisted in a position where they will be most easily seen by the receiving ship, where they will fly clear and not be obscured, or partially obscured, by smoke or obstruction, in the line of sight.

When it is desired, in order to save time, to display several hoists simultaneously, they may be flown (*a*) masthead, (*b*) triatic stay, (*c*) starboard yardarm, (*d*) port yardarm, and the sequence in which they are to be read is in the foregoing order.

More than one group may be displayed on the same halyard, but they must be separated by a tackline. The upper group is to be read first, second group second, and so on.

Where more than one hoist is shown on the triatic stay, on different halyards, the foremost is to be read first.

In the event of more than one hoist being displayed on the same yardarm, on different halyards, the outboard is to be read first.

Plate 4 shows a ship flying a signal, the different groups forming the signal being displayed simultaneously. The numbers against the groups denote the order in which they should be read.

Generally speaking, only one hoist will be displayed at a time. In every case, however, each hoist, or group of hoists, is to be kept flying until the receiving ship indicates, in the manner described later, that they are understood.

A superior signal is one which has been hoisted before another in

respect to time or hoist. Conversely, an inferior signal is one which is hoisted after another in respect of time or hoist.

HOW TO CALL.

When signal letters are not hoisted superior to the signal, it will be understood the signal is addressed to all ships within visual signalling distance. In other cases the signal letters of the ship, or ships, addressed are to be hoisted superior to the signal.

When, for any reason, it is impossible to determine the signal letters of the ship it is desired to address, the ship wishing to make the signal should hoist the group VH, which signifies "You should hoist your signal letters," and at the same time, hoist her own signal letters. If this fails, then the group NMJ, which signifies "I wish to signal to vessel,s (number indicated if necessary) on bearing indicated by me," must be hoisted.

HOW TO ANSWER SIGNAL.

All vessels to which signals are addressed, or are indicated in the signals, are to hoist the answering pendant at the dip as soon as they observe the hoist. As soon as the hoist is understood the answering pendant is to be hoisted to the close up; it is to be lowered to the dip as soon as the sending ship hauls down her hoist. It is again to be hoisted to the close up when the next hoist is understood and lowered to the dip when the hoist is hauled down, and so on till the signal is completed.

It is recommended that the triatic stay be not used for the answering pendant in view of the fact that it is sometimes difficult to determine when the pendant is close up in that position.

HOW TO COMPLETE SIGNAL.

The transmitting ship is to hoist the answering pendant singly after the last hoist of the signal has been made to indicate the message is completed. The receiving ship will answer in the usual way, *i.e.*, hoist her answering pendant close up.

WHEN SIGNALS ARE NOT UNDERSTOOD.

In the event of the receiving ship being unable clearly to distinguish the signals being made to her she is to keep the answering pendant at the dip and hoist an appropriate signal from the Code to inform the transmitting ship the reason of her inability to read the signals.

Again, when she can distinguish the signal but cannot understand the purport of it, she should hoist the signal VB, which signifies "Signal is not understood though flags are distinguished."

COMMUNICATION BY LOCAL SIGNAL CODES.

If a vessel or shore signal station wishes to make a signal in a local code, then if necessary, in order to avoid misunderstanding, the following signal from the International Code of Signals should precede the signal.

NMM—Signal(s) which follow(s) will not be found in the International Code of Signals, but pertain(s) to local conventional signals.

Particulars concerning these local signals should be looked up in the Sailing Directions.

COMMUNICATION BY FLAGS BETWEEN MEN-OF-WAR AND MERCHANT VESSELS.

When a man-of-war desires to communicate with a merchant vessel, she will hoist the Code pendant in a conspicuous position and keep it flying during the whole time the signal is being made.

QUESTIONS RELATING TO FLAG SIGNALLING

1. When is the answering pendant at the "dip"?
2. What is a hoist?
3. What does the red burgee hoisted singly indicate?
4. What is the nature of a two-flag signal?
5. You observe a four-flag signal, A uppermost. What type of signal is it?

6. When is a signal "close up"?
7. What do you understand by a ship's "signal letters"?
8. When speaking to a ship, what is the position of her signal letters relative to the signal made?
9. When are the signal letters of a ship hoisted inferior to a signal?
10. How would you ascertain the nationality of a vessel from her signal letters?
11. What is the object of the Punctuation and Amplifying Phrases?
12. How would you express 2 hrs. 30 mins. p.m. in a signal?
13. What does the hoist answering pendant over flag E indicate?
14. Hoists are flying at the triatic stay, masthead and both yardarms. In what order should they be read?
15. When is a signal said to be superior to another?
16. There are two hoists on the same yardarm but on different halyards. Which is to be read first?
17. A vessel is flying a signal without signal letters superior to it. To whom is the signal addressed?
18. What is the objection to using the triatic stay for the answering pendant?
19. Two hoists are suspended from the triatic stay. Which is to be read first?
20. How would you indicate the end of a message?
21. In what respect do the signal letters of ships differ from those of aircraft?
22. You observe a signal being made to you. What would you do?
23. How would you call a vessel?
24. How would you call a vessel whose signal letters you cannot determine?
25. Give the meaning of the hoist—T1530.
26. What is the signification of the hoist—T15 first substitute, second substitute?

27. Explain the use of the Model Verb Section.
28. In the Code some words have a qualification, in brackets, alongside. What is the object of inserting the qualification?
29. In what order should latitude and longitude be signalled?
30. What is a tackline, and for what purpose is it used?
31. How would you recognise latitude and longitude hoists?
32. What does the hoist answering pendant over flag F indicate?
33. How is the decimal point in a number indicated?
34. What does the hoist X140 indicate?
35. What is the order of the hoists when signalling a position by bearing and distance from a point of land?
36. Enumerate the signals for a pilot.
37. What are quarantine signals?
38. In what manner are towing signals made?
39. What is the signification of flag J hoisted inferior to a group of signal letters? (Semaphore instructions are given in Chapter VII.)
40. How are numbers signalled in a semaphore message?
41. How would you indicate the end of a semaphore message?
42. How does a man-of-war indicate she wishes to communicate by semaphore with a merchant vessel?
43. What is the use of substitutes?
44. Which flag does the second substitute repeat?
45. Can the same substitute be used twice in one group?
46. In what way does a man-of-war indicate she wishes to communicate with a merchant vessel?

Code the following—

47. Will you please send off 3 lighters?
48. I cannot drop pilot. I will carry him to Dunkerque.
49. My vessel is disabled and I require a tug to tow me into berth.
50. Vessel's position at 2.30 p.m. Latitude 33° 30' N., Longitude 44° 44' W.

51. Present position 30 miles S.E. (true) from St. Catherine Point.

52. Please distribute oil to leeward of wreck.

53. Entrance is not dangerous.

54. Request a good berth.

55. You should telegraph the following message to my owners:
"Delayed on account of strike by seamen. Time 12.20 p.m."

56. I am obliged to stop my engines. I have a hot bearing.

57. You should anchor. Fairway is not clear.

58. Kenneth T. Macleod, 121 Victoria Street, Dundee.

59. Sighted SS. *Harvard*, Latitude $00^{\circ} 10'$ South, Longitude $178^{\circ} 30'$ West at 9.30 a.m. on Wednesday.

60. Passed SS. *City of Kimberley* in tow of M.V. *Opawa*, Latitude $32^{\circ} 20'$ S., Longitude $165^{\circ} 30'$ W., on 2nd July. They are steering for Auckland and making 5.5 knots.

Decode the following—

61. YQ, LW 1st sub., AGQ, AGU, IK.

62. QMD, EFX, RQO, FWA, FJG, IFP, 24, H 1st sub. V.

63. MJZ, FER, AGQ, RMB, RIP, AGQ, ONS, ALN, BDC.

64. AP, AGQ, JRK, IQV, NEJ, AGQ, LBE, NBI, ICN, B 1st sub. E, IQY.

65. AGY, HMC, FKV, P3 1st sub., O 3rd sub., IVP.

66. AGW, HO.

67. OTM, EUN, CEB, ONF, AGQ, NEJ, KLH.

68. AGY, EYS.

69. RPQ, RLX, 2 1st sub. O 3rd sub., PC 2nd sub., GKD. AJ 2nd sub. O.

70. R 1st sub. A. QWS, X 20 2nd sub., 10, AFCZ.

71. WFEW, JN, 3 1st sub. 2nd sub., B 1st sub. E, VZ, 12 Answering Pendant 5, IBO.

72. AGZ, HA.

ANSWERS.

1. When it is hoisted about half the extent of the halyards.
2. A hoist consists of one or more groups displayed from the same halyard.
3. I am taking in or discharging explosives.
4. Distress and manoeuvring signals.
5. Geographical.
6. When hoisted the full extent of the halyard.
7. Letters, four in number, which have been allotted to her for identification purposes.
8. Her signal letters are hoisted SUPERIOR to the signal.
9. When speaking of, or referring to, a ship.
10. Her nationality may be determined from the first letter, or first two letters, of her signal letters.
11. To make the sense of the message clearer to the decoder and increase the scope of the code.
12. T1430.
13. Alphabetical No. 1. The following letters represent the letters of the alphabet spelling a word.
14. (i) Masthead, (ii) triatic stay, (iii) starboard yardarm, (iv), port yardarm.
15. When hoisted before another in respect to time or position.
16. The outboard hoist.
17. To all ships within visual signalling distance.
18. It is difficult for the other ship to discern whether or not it is close up.
19. The foremost.
20. By hoisting the answering pendant singly after the last hoist.
21. A ship's signal letters are four in number, and aircraft's signal letters consist of five letters.
22. On observing the hoist, answering pendant to be hoisted at the dip. When hoist is understood, hoist answering pendant close up.

23. By hoisting her signal letters superior to the signal.

24. Request the vessel to hoist her signal letters by hoisting the appropriate group from the Code. If this fails, then hoist the group indicating "I wish to signal to vessel on bearing indicated from me."

25. It is a time signal—15 hours 30 minutes.

26. It is a time signal indicating 15 hours 15 minutes.

27. It is given to facilitate the coding of necessary verbs in the affirmative, negative, interrogative.

28. The qualification indicates the sense in which the word is to be used.

29. First group latitude, second group longitude.

30. It is used to separate each group of flags which, if not separated, would convey a different meaning to that intended.

31. Such hoists consist of four numeral pendants preceded by and joined with the letter P.

32. Alphabetical signal No. 2, indicating end of word being spelt or dot between initials.

33. (a) Flag signalling:—By inserting the answering pendant where it is desired to express the decimal point.

(b) Semaphore:—Spelt out, thus "Decimal."

34. Bearing 140° true.

35. Bearing—distance from—point.

36. (i) Single-letter signal—Flag G.

(ii) Two-letter signal—Flags P T.

(iii) The Pilot Jack hoisted at the fore.

37. Signals shown on vessels requiring or required to show their state of health.

38. (i) *By day*:—They may be held in the hand or by hoisting at the stay or fore shrouds, or at the gaff.

(ii) *By night*:—By flashing.

39. It indicates that the vessel flying the signal wishes to communicate by semaphore with the vessel whose signal letters are hoisted.

40. They are spelt out.

41. By making the ending sign $\overline{\text{AR}}$.

42. She will hoist the Code pendant in a conspicuous position and the signal letters of the merchant vessel with a tackline superior to J flag.

43. To enable the same flag to be repeated one or more times in the same group while still only carrying one set of flags.

44. The second substitute always repeats the second signal flag counting from the top of that class of flags which immediately precedes the substitute.

45. No substitute can ever be used more than once in the same group.

46. She will hoist the Code pendant in a conspicuous position, and keep it flying during the whole time the signal is being made.

47. LBF, NBI, 3, IQY.

48. KX 1st sub., AGQ, AEM, CX 2nd sub., RIF, PBK, AFDC.

49. LI, XW.

50. LFO, T1430, P3 1st sub. 2nd sub. 0, IGD, P4 1st sub. 2nd sub. 3rd sub., IVP.

51. LF 1st sub., X135, 30, ANRQ.

52. LBE, FCP, KBR, IKP, QW 1st sub.

53. AGY, GZ.

54. AGT, BYK.

55. OTN, AGQ, EQA, RKU, OIA, CPR, RMB, T12 2nd sub. 0.

56. MS, AGQ, AH 1st sub., MR.

57. DB, AGQ, AGY, MX.

58. Answering pendant E, KEN 3rd sub., ETH, answering pendant F, T, answering pendant F, MACL, EOD, answering pendant G 12 1st sub., answering pendant E, VICT, ORIA, answering pendant G, OHK, AFCV.

59. NJX, WTBY, PO 1st sub. 1 2nd sub., IGE, P 17830, IVP, BMS, T093 1st sub., KDP, QJH.

60. RKY, GLCM, PE 2nd sub., GJMC, P32 2nd sub. 0, IGE,

P16530, IVP, KDP, MZQ, HZF, AGQ, AEB, OCZ, A 1st sub. YW, B 1st sub. E, IZQ, 5 answering pendant 1st sub., IBO.

61. Barometer is falling rapidly. I advise you to prepare for a cyclone.

62. What current have you experienced during the last 24 hours?

63. I urgently require a doctor. Seaman ill. Suspect acute appendicitis.

64. I am aground. It will be necessary to lighten ship. Please send off labour and lighters.

65. You will not encounter ice East of $33^{\circ} 00'$ West Longitude.

66. Is surf too heavy for landing?

67. You should telegraph the following to my agents: "Detained by Board of Trade Surveyor. Ship overloaded."

68. I am not ready to discharge cargo.

69. I have sufficient space for 2200 tons deadweight for Liverpool.

70. There is a sunken wreck 200° , 10 miles from Dungeness.

71. To SS. *Holiday*. "You should alter course to 333° and increase your speed to 12.5 knots."

72. Entrances are impassable.

CHAPTER VII.

SEMAPHORE SIGNALLING





























SEMAPHORE signalling is a very convenient mode of communication between vessels close enough to discern the signals clearly. The signals may be made by means of the mechanical semaphore, or by the signalmen holding in each hand a small flag and forming the different letters by moving his arms. In either case great care must be exercised to ensure the letters and signs are formed accurately, otherwise delay will arise.

The standard rate of signalling by semaphore is to be taken as eight words per minute.

The semaphore flag is J. When J flag is hoisted singly or inferior to signal letters in a position where it can best be seen, it denotes that a message is about to be made by semaphore. The semaphore alphabet is given on page 46. It will be observed it contains three signs, viz., answering sign, attention and break signs.

Should a vessel desire to communicate by semaphore with another vessel the transmitting vessel will hoist: Signal letters of ship addressed tackline J flag. The ship addressed on observing the signal will hoist the answering pendant at the dip. As soon as she is ready to read, the answering pendant is hoisted close up. The semaphore flag is to be kept flying while the message is being made and hauled down when completed.

When a man-of-war wishes to communicate by semaphore

				
A	B	C ANSWERING SIGN	D	E
				
F	G	H	I	J
				
K	L	M	N	O
				
P	Q	R	S	T
				
U	V	W	X	Y
				
	Z	ATTENTION	BREAK	

with a merchant vessel, she will hoist in a conspicuous position the Code pendant and Signal letters of merchant ship tackline J flag.

All messages transmitted by semaphore are to be made in plain language; should numbers occur in the message they are to be spelt out in words. A decimal point between numerals is spelt out, thus "DECIMAL."

Procedure for Sending and Receiving.

The sender faces the ship addressed and makes the attention sign. The ship addressed on observing it hoists the answering pendant close up. The sender after a short pause makes, if necessary, name of ship addressed, "de" name of transmitting ship, then carries on with the message.

When vessels are close together instead of exhibiting the semaphore flag and answering pendant, they may make the attention sign and answering sign respectively.

The end of a word is indicated by dropping the arms to the break position. When double letters occur in a word after the first of the double letters is made, the arms are dropped to the break position and then without a pause moved to the second letter.

The receiver will acknowledge the correct reception of each word by making the letter C. If this letter is not made, the sender repeats the word.

Should an error occur, it is to be indicated by a succession of E's (EEEEEE, etc.). The last word correctly transmitted should now be made and the message continued. The ending sign AR is to be made at the end of the message.

Example—The SS. *British Advocate* (signal letters GJLM) wishes to ask, by semaphore, the SS. *British Diplomat* (signal letters

GFRY) if she can supply two coils of three-inch manila rope. The procedure is as follows:

Component	SS. <i>British Advocate</i> makes	SS. <i>British Diplomat</i> makes
Call	GFRY } or tackline } Attention J } Sign	Hoists answering pendant at the dip and close up when ready to read; or makes answering sign C
Identity	<i>British Diplomat</i> de <i>British Advocate</i>) }	C
Text	Can	C
	you	C
	supply	C
	me	C
	with	C
	two	C
	coils	C
	of	C
	three	C
	inch	C
	manila	C
	rope	C
Ending	AR	

If convenient, the attention and answering signs may be used instead of the semaphore flag and answering pendant respectively. Note that ships' names and numbers are spelt out.

CHAPTER VIII.

MORSE SIGNALLING—EXPLANATION OF USE OF PROCEDURE SIGNALS AND SIGNS—FORM OF MESSAGE—EXAMPLES OF TRANSMISSION OF MESSAGES—RATE OF SIGNALLING AND PERCENTAGE TABLES.

Morse signalling is carried out by flashing a light, or by sound. The symbols which represent letters are expressed by two elements called a dot (or short) and a dash (or long), signalled singly or in combination. The following ratios are to be observed between dot, dash, letter, word or group.

A dot is taken as the unit and a dash is equivalent to three units.

Interval between each flash or sound	..	..	1 unit
„ „ letter	..	..	3 units
„ „ word or group	..	..	5 units

The above spacing should be adhered to whatever the rate of sending.

The standard rate of signalling by flashing in Morse is to be regarded as eight words per minute. The International Morse Code alphabet, numerals, punctuation and procedure signals and signs are given on pages 50 and 51, and should be committed to memory.

The following Tables give a list of the Morse symbols used for visual and sound signalling. A bar over the letters composing a sign denotes that the letters are made as one symbol.

INTERNATIONAL MORSE CODE.

Alphabet.

Mean- ing	Symbol	Mean- ing	Symbol	Mean- ing	Symbol
<i>A</i>	· —	<i>H</i>	· · · ·	<i>Q</i>	— · — · —
<i>ā</i>	· — — —	<i>I</i>	· ·	<i>R</i>	· — ·
<i>à</i>	· — — — —	<i>J</i>	· — — —	<i>S</i>	· · ·
<i>B</i>	— · · ·	<i>K</i>	— · —	<i>T</i>	—
<i>C</i>	— · — ·	<i>L</i>	· — — ·	<i>U</i>	· — —
<i>C H</i>	— — — — —	<i>M</i>	— —	<i>ü</i>	· — — —
<i>D</i>	— · ·	<i>N</i>	— ·	<i>V</i>	· · · —
<i>E</i>	·	<i>ñ</i>	— — — — —	<i>W</i>	· — —
<i>è</i>	· · · · ·	<i>O</i>	— — —	<i>X</i>	— · — —
<i>F</i>	· · · ·	<i>ö</i>	— — — ·	<i>Y</i>	— — — —
<i>G</i>	— — —	<i>P</i>	· — — ·	<i>Z</i>	— — — ·

Numerals.

Punctuation.

Mean- ing	Symbol	Meaning	Sign	Symbol
1	· — — — —	Full stop (.) and decimal point	<i>AAA</i>	· — · — · —
2	· — — —			
3	· — — —	Bar indicating fraction (/)	<i>X E</i>	— · · · ·
4	· · · · —			
5	· · · · ·			
6	— · · · ·			
7	— — · · ·			
8	— — — · ·			
9	— — — — ·			
0	— — — — —			

Procedure Signals and Signs.

Meaning	Sign	Symbol
Call for unknown ship and general call	<i>A A A A</i> , etc.	<i>— — — —</i> etc.
Answering sign	<u><i>TTTTTT</i></u> , etc.	<i>— — — —</i> , etc.
Space sign	<u><i>I I</i></u>	<i>— —</i>
Break sign	<u><i>B T</i></u>	<i>— — — —</i>
Erase sign	<u><i>EEEEEEEE</i></u> , etc.	<i>— — — —</i> , etc.
Repeat sign	<u><i>U D</i></u>	<i>— — — —</i>
All after	<i>A A</i>	<i>— — — —</i>
All before	<i>A B</i>	<i>— — — —</i>
Word or group after	<i>W A</i>	<i>— — — —</i>
Word or group before	<i>W B</i>	<i>— — — —</i>
Ending sign	<u><i>A R</i></u>	<i>— — — —</i>
From	<i>De</i>	<i>— — — —</i>
You are correct	<i>C</i>	<i>— — — —</i>
Repeat back	<i>G</i>	<i>— — — —</i>
Message received	<i>R</i>	<i>— — — —</i>
Word (plain language) received	<i>T</i>	<i>— — — —</i>
I am unable to read your message owing to light not being pro- perly trained or light burning badly	<i>W</i>	<i>— — — —</i>
Intern'l Code groups follow	<i>P R B</i>	<i>— — — — — — — —</i>

Used when obtaining a repetition.

EXPLANATION OF USE OF PROCEDURE SIGNALS AND SIGNS.

The use of procedure signals and signs is to govern the form, or mode, of exchanging messages between ships and, at the same time, to provide means by which signals can be efficiently yet rapidly transmitted with accuracy.

AA AA AA, etc.

The Call Sign.—This is the normal method of calling up at sea. It is to be used to call an unknown ship and as a general call, and is to be continued until the ship addressed answers.

TTTTTT, *etc.*

This sign, a succession of *Ts*, is the **Answering Sign** to the call, and is to be made until the transmitting ship ceases to call.

II

This is the **Space Sign** and is to be made to separate the signs *AA*, *AB*, *WA*, and *WB*, from the identifying words or groups which follow them. It is also to be used to separate whole numbers from fractions.

BT

The Break Sign precedes the text. It is to be repeated back by the receiving ship, but the repetition is not acknowledged by “*C*” (the correct sign) by the transmitting ship. If the receiving ship fails to repeat back the break sign, the transmitting ship will make BT again until it is repeated back correctly.

The break sign is not inserted before the text of messages requesting repetitions.

EEEEEE, *etc.*

The Erase Sign, a succession of *Es*, indicates that the last word or group was signalled incorrectly. It is to be answered

with the erase sign. As soon as it has been answered, the transmitting ship will repeat the last word or group which was correctly signalled then carry on with the remainder of the message.

In the event of the mistake not being discovered until after the complete message has been signalled, a new message must be made.

If, while in the process of transmission, it is desired to cancel the whole message, the erase sign is to be made followed by the ending sign \overline{AR} , viz., $\overline{EEEEEE} \overline{AR}$.

\overline{UD}

The **Repeat Sign** is used to obtain a repetition of the whole or part of a message.

When made singly it signifies "Repeat the *last* message." In this case, the repetition is signalled, making the message in exactly the same form as originally transmitted.

On many occasions it will not be necessary to request a repetition of the whole message, in which case the repeat sign is to be used in conjunction with one of the signs AA , AB , WA , or WB , whichever is appropriate, *introducing the space sign before the word or group of the text*. Thus:

" $\overline{UD} \ AA \ II \ SIGHTED$ " signifies "Repeat *all after the word SIGHTED.*"

" $\overline{UD} \ AB \ II \ FCV$ " ,, "Repeat *all before the group FCV.*"

" $\overline{UD} \ WA \ II \ LOAD$ " ,, "Repeat the *word after LOAD.*"

" $\overline{UD} \ WB \ II \ DUG$ " ,, "Repeat the *group before DUG.*"

It is to be noted that when a message is not understood, or a decoded message not intelligible, the repeat sign is NOT to be

made. In such cases the receiving ship must make the appropriate signal from the Code Book.

Note:—In sound signalling, the repeat sign when made singly has a special signification. See page 67.

AR

The Ending Sign ***AR*** is used in all cases to end a message.

De

The word "*De*" used in the identity signifies "From —"

Thus: *De GQMJ* indicates "From a ship whose signal letters are *GQMJ*."

C

The letter *C* signifies "You are correct."

When the receiving ship repeats back a word or group in the *text* of a message, the transmitting ship will make *C* to indicate to the receiving ship the repetition has been made correctly.

G

This letter signifies "Repeat back." It may be inserted at the beginning of the text of a plain language message, and is signalled separately. When so used, it signifies "Everything which follows in this message is to be repeated back, word by word, as soon as received."

R

This letter signifies "Message received."

T

This letter is used to indicate the receipt of each *word* in the text of a *plain language* message.

W

This letter used as a message in itself signifies "I am unable to read your message owing to light not being properly trained or

light burning badly." This is to be made by the receiving ship at any stage of the message, if required, and is to be answered by the transmitting ship showing a steady light until the receiving ship is satisfied with the light and ceases to make "W."

PRB

This is a Code group signifying "The following is coded by the International Code of Signals." In messages transmitted by the Morse Code, "*PRB*" is to be used as the first group of a coded text to indicate that the following message consists of groups taken from the International Code of Signals and is not a plain language message.

FORM OF MESSAGE.

A message made by flashing will, in general, consist of the following components, although all of these components are not necessarily signalled in every message.

1. Call
2. Identity
3. Break Sign
4. Text
5. Ending

The Call: The transmitting ship makes the call and continues doing so until answered. The call consists of:—

- (i) The general call (*AA AA AA*) etc., or
- (ii) The signal letters of the ship called.

The answering ship, on observing the call and when ready to read and write down, will answer by making the answering sign *TTTTT* etc.

The Identity: It will not always be necessary for ships to exchange identity, but should it be required to do so the following is the procedure.

On the call being acknowledged, the transmitting

ship will make "*de* (from)" followed by her signal letters. This will be repeated back.

The receiving ship will now make her own signal letters, which the transmitting ship will repeat back.

In the event of either ship failing to repeat back immediately, or repeat back correctly, the other ship will make her signal letters again until they are correctly repeated back.

The Break Sign: The transmitting ship now makes the break sign (\overline{BT}) and the receiving ship repeats it back. The repetition by the receiving ship is not acknowledged by the transmitting ship, as it is not part of the text. See explanation of break sign, page 52.

The Text: The text refers to the message being signalled, and consists of words in plain language or Code groups. Each word or group is signalled separately. The receiving ship will:—

(a) Acknowledge the receipt of each plain language word with "*T*."

(b) Repeat back all Code groups, numbers signalled as figures (that is not spelt out), procedure signals and signs except "*C*" and punctuation signs.

If the repetition is correct, the transmitting ship will make "*C*," if incorrect she will make the group again.

If the receiving ship does not acknowledge the receipt or repeat back, the transmitting ship should immediately signal again the last word or group.

Ending: At the conclusion of the text the transmitting ship makes the ending sign (\overline{AR}). The ending is answered by *R*.

When two ships are signalling for a considerable period and several messages are passed between them, the call and identity need be signalled in the first message only, in order to avoid delay.

Numbers will usually be signalled by the numerals in the Morse Code, but they may be spelt out in a plain language message. Thus 680 may be written and transmitted as "six eight zero."

EXAMPLES OF TRANSMISSION OF MESSAGES.

With the object of illustrating the use of the procedure signals and signs, it will be advisable to give here a few examples of the transmission of messages between ships.

Example 1. Plain Language Message.

The SS. *Euripides* (signal letters *GMLP*) signals to the SS. *City of Calcutta* (signal letters *GCPK*) the message, "Is the monsoon blowing strong?"

Component	SS. <i>Euripides</i> makes	SS. <i>City of Calcutta</i> makes
Call	<i>AA AA AA</i> , etc.	<i>TTTTT</i> , etc.
Identity	{ <i>De GMLP</i> <i>GCPK</i>	<i>De GMLP</i> <i>GCPK</i>
Break Sign	<i>BT</i>	<i>BT</i>
Text	{ Is the monsoon blowing strong	<i>T</i> <i>T</i> <i>T</i> <i>T</i> <i>T</i>
Ending	<i>AR</i>	<i>R</i>

Example 2. Coded Message.

The SS. *Loch Leven* (signal letters *GSXZ*) asks the SS. *Mateba* (signal letters *OTBA*) the question: "Did you pass SS. *Hilary* (signal letters *GQVM*) to-day?"

Component	SS. <i>Loch Leven</i> makes	SS. <i>Mateba</i> makes.
Call Identity	<i>AA AA AA</i> , etc. <i>De GSXZ</i> <i>OTBA</i>	<u><i>TTTTT</i></u> , etc., <i>De GSXZ</i> <i>OTBA</i>
Break Sign	<u><i>BT</i></u>	<u><i>BT</i></u>
Text	<i>PRB</i>	<i>PRB</i>
	<i>C</i>	
	<i>AGJ</i>	<i>AGJ</i>
	<i>C</i>	
	<i>KPK</i>	<i>KPK</i>
	<i>C</i>	
	<i>GQVM</i>	<i>GQVM</i>
	<i>C</i>	
	<i>PBP</i>	<i>PBP</i>
	<i>C</i>	
Ending	<u><i>AR</i></u>	<i>R</i>

Note.—Observe that the message being coded the ship's name is expressed by her signal letters.

Example 3. Requesting Repetition.

The SS. *Southern Star* (signal letters *WGEB*) has signalled to the SS. *Northern Light* (signal letters *KGEG*) the message, "Sighted iceberg in position P4130 P4720". The SS. *Northern Light* requests a repetition of all after position.

The signalling is carried out as follows:—

Component	SS. <i>Northern Light</i> makes	SS. <i>Southern Star</i> makes
Call Identity	<i>WGEB</i> , etc. <i>De KGEG</i>	<u><i>TTTTT</i></u> <i>De KGEG</i>
Text	<i>UD AA II</i> Position <i>C</i>	<i>UD AA II</i> Posn.
Ending	<u><i>AR</i></u>	<i>R</i>

The SS. *Southern Star* then repeats "Position" P4130 P4720 as follows:

Component	SS. <i>Southern Star</i> makes	SS. <i>Northern Light</i> makes
Call	<i>KGEG</i> , etc.	<i>TTTTT</i> , etc.
Identity	<i>De WGEB</i>	<i>De WGEB</i>
Break Sign	<i>BT</i>	<i>BT</i>
Text	Position	<i>T</i>
	P4130	P4130
	<i>C</i>	
	P4720	P4720
	<i>C</i>	
Ending	<i>AR</i>	<i>R</i>

When requesting the repetition, and on signalling the repetition, the call and identity signs could have been omitted since the vessels were previously signalling.

It is to be observed the break sign is not inserted before the text requesting the repetition.

The word "position" is acknowledged by *T*, whereas the groups denoting latitude and longitude are repeated back and their correct repetition acknowledged by the transmitting ship making "*C*."

Example 4. Coded Message in which two mistakes are made in transmission.

SS. *Elmpark* (signal letters *GDMF*) transmits to SS. *Daylight* (signal letters *WDEJ*) a coded message signifying "I find that current sets to the E.N.E. magnetic."

Component	SS. <i>Elmpark</i> makes	SS. <i>Daylight</i> makes
Call	<i>AA AA AA</i> , etc.	<u><i>TTTTT</i></u> , etc.
Identity	<i>De GDMF</i> <i>De GDMF</i> <i>WDEJ</i>	<i>De GDML</i> <i>De GDMF</i> <i>WDEJ</i>
Break Sign	<u><i>BT</i></u> <i>PRB</i> <i>C</i> <i>HJI</i> <i>C</i> <i>GDQ</i> <i>C</i> <i>EGM</i> <i>C</i> <i>FTT</i> <u><i>EEEEEE</i></u> , etc. <i>EGM</i> <i>C</i> <i>FKT</i> <i>C</i> <i>IXU</i> <i>C</i>	<u><i>BT</i></u> <i>PRB</i> <i>HJI</i> <i>GDQ</i> <i>EGM</i> <u><i>FTT</i></u> <u><i>EEEEEE</i></u> , etc. <i>EGM</i> <i>FKT</i> <i>IXU</i> <i>R</i>
Text		
Ending	<u><i>AR</i></u>	

Note.—Observe that *Daylight* repeated back incorrectly the group *GDMF*, and *Elmpark* again made her signal letters.

In the text *Elmpark* made *FTT* instead of *FKT*. Discovering the error, she made the erase sign, which *Daylight* acknowledged by making the erase sign. *Elmpark* then made *EGM*, the last group correctly signalled, and carried on with the remainder of the message.

Example 5. Requesting Repetition:

The SS. *Earl Haig* (signal letters *GQMJ*) has signalled to the SS. *City of Agra* (signal letters *GRBC*) in plain language the message "Understand Willapa Buoy is adrift." The SS. *City of Agra* requests a repetition of the word before "Buoy." The signalling is carried out as follows:—

Component	SS. <i>City of Agra</i> makes	SS. <i>Earl Haig</i> makes
Call	<i>GQMT</i> , etc.	<u><i>TTTTT</i></u> , etc.
Identity	<i>De GRBC</i>	<i>De GRBC</i>
Text	<u><i>UD</i></u> <i>WB II</i> Buoy	<u><i>UD</i></u> <i>WB II</i> Buoy
	<i>C</i>	
Ending	<u><i>AR</i></u>	<i>R</i>

The SS. *Earl Haig* then repeats the word required, and the word quoted, as follows:—

Component	SS. <i>Earl Haig</i> makes	SS. <i>City of Agra</i> makes
Call	<i>GRBC</i> , etc.	<u><i>TTTTT</i></u> , etc.
Identity	<i>De GQMJ</i>	<i>De GQMJ</i>
Break Sign	<u><i>BT</i></u>	<u><i>BT</i></u>
	<i>G</i>	<i>G</i>
	<i>C</i>	
	Willapa	Willapa
	<i>O</i>	
	Buoy	Buoy
	<i>C</i>	
Ending	<u><i>AR</i></u>	<i>R</i>

To make certain that the *City of Agra* received the word correctly and being in plain language, the *Earl Haig* inserted "G" at the beginning of the text, signifying "Repeat back everything which follows."

Earl Haig makes "C," indicating the repetition is correct. The call and identity could, of course, have been omitted.

MINISTRY OF TRANSPORT
EXAMINATION IN SIGNALLING.

The following extract from the Ministry of Transport Regulations governing the examination in signals will be of interest to those who intend presenting themselves for examination:—

“The examination in Signalling will in all cases begin with an examination in the International Code, including Morse flashing and semaphore.

MORSE FLASHING AND SEMAPHORE.

Speeds and Tests for Voluntary Examination.—Candidates for the voluntary examination in signalling will be required to attain a minimum speed of 12 words a minute in Semaphore, and 10 words a minute in Morse Flashing; the average length of a word is taken as 5 letters.

The Morse Flashing Test will consist of a Test message, followed by a Spelling message of 25 words, and the Semaphore test will consist of a Spelling message of 50 words.

In the examination in Morse Flashing, the candidate should be first required to make a Test message, followed by a Spelling message of 25 words. The Examiner should then make a Test message, followed by a Spelling message of 25 words to be read by the candidate.

The same procedure will be observed in the Semaphore test, except that, as a Test message is not given, the candidate will be required to make a spelling message of 50 words, and then to read a message of 50 words made by the Examiner.

Speeds and Tests for Other Candidates.—Other candidates will be required to attain a speed of 8 words a minute in Semaphore, and 6 words a minute in Morse Flashing; the average length of a word is taken as 5 letters.

The Morse Flashing test will consist of a Test Card and a

Spelling message of 10 words, and the semaphore test of a Spelling message of 25 words.

Method of Signalling.—The Semaphore messages will be made by hand flags.

The spelling message is left to the discretion of the examiner, and may be a passage from any book or newspaper in English. When the passage contains figures and the candidate does not choose to spell them out, the examiner should see that the proper signs are made before and after the figures.

The message as read by the candidate should be taken down by another candidate where possible, otherwise by a clerk, or other person according as the examiner may deem expedient.

Candidates should be thoroughly tested in the various signs and the procedure of calling up, sending and answering a signal, and this course, should always be strictly adhered to.

Marks.—In the Morse Flashing examination, marks will be allotted for the Test message in the proportion of 50/78 of a mark for each correct letter or numeral, and for the Spelling message 2 marks for each correct word or group of figures. In the Semaphore examination, 2 marks will be allotted for each correct word.

Every candidate must, for a pass, gain an aggregate of at least 90 per cent, of the maximum marks allotted both in making and reading in each method, *i.e.*, Morse Flashing and Semaphore."

From the above it will be noted that the speed in the Voluntary examination (sometimes referred to as Special signals) in Morse Flashing is 10 words a minute, while the speed in the ordinary examination is 6 words a minute. In every case a candidate must, for a pass, gain an aggregate of 90 per cent of the maximum marks allotted both in making and reading in each method, *i.e.*, Morse Flashing and Semaphore.

A Test Card consists of 78 letters and figures arranged in any order. In general each line of the card will consist of four letters

and one figure, but this must not be taken as a fixed rule, as sometimes there will be five letters in one line and three letters and two figures in the following line, or other arrangement.

At the minimum rate of 6 words a minute the time allowed for signalling a Test Card containing numerals is 3 minutes 40 seconds.

The following Test message, and Allotment of Marks Table for Test message, will be found most useful during practice.

TEST CARD.

X	E	U	5	W
D	9	W	K	K
O	I	R	0	J
P	T	6	Z	H
A	L	M	Q	4
7	B	E	G	0
R	A	M	3	Y
X	V	I	P	W
H	F	K	Z	8
0	5	Q	L	Y
A	T	U	2	M
7	B	N	S	0
0	H	F	A	R
Y	G	N	N	4
6	0	Q		

As previously mentioned to pass in the Morse Flashing Examination a candidate must obtain an aggregate of 90 per cent of the maximum marks possible. These are:—

Test Message	=	50	marks
Spelling „	=	20	„
		—	
Total	=	70	„
		<u> </u>	

**Allotment of Marks according to number of Mistakes
in Test Message.**

Full Marks 50.

Number of Mistakes	Marks Obtained	Number of Mistakes	Marks Obtained	Number of Mistakes	Marks Obtained
1	49.3	21	36.5	41	23.7
2	48.7	22	35.9	42	23.1
3	48.1	23	35.2	43	22.4
4	47.4	24	34.6	44	21.8
5	46.8	25	34.0	45	21.1
6	46.1	26	33.3	46	20.5
7	45.5	27	32.7	47	19.9
8	44.9	28	32.0	48	19.2
9	44.2	29	31.4	49	18.2
10	43.6	30	30.8	50	17.9
11	42.9	31	30.1	51	17.3
12	42.3	32	29.5	52	16.7
13	41.7	33	28.8	53	16.0
14	41.0	34	28.2	54	15.4
15	40.4	35	27.6	55	14.7
16	39.7	36	26.9	56	14.1
17	39.1	37	26.3	57	13.5
18	38.5	38	25.6	58	12.8
19	37.8	39	25.0	59	12.2
20	37.2	40	24.3	60	11.5

Hence the minimum marks for a pass is 90 per cent of 70, i.e., 63 marks. Suppose that in the Test message the candidate makes seven mistakes consisting of misses or errors. On consulting the Allotment of Marks table for the Test message abreast of 7 errors is 45.5 marks.

Now let us suppose the Spelling Message was read as follows:—

“The / committee / agreed / to / dihcuss / the / matder / with / the / domwuni.”

The reader after examining the above makes two alterations and submits the following as the read message:—

“The committee agreed to discuss the matter with the domwuni.”

Nine of the ten words are correct and two marks are awarded for each word correctly read. The marks gained are, therefore, $2 \times 9 = 18$ marks.

To find the aggregate:—

For test message = 45·5 marks.

„ spelling „ = 18·0 „

Aggregate = 63·5 „

Percentage = $63·5 \times \frac{100}{70} = 90·71$, a pass by a narrow margin.

CHAPTER IX.

SOUND SIGNALLING.—QUESTIONS RELATING TO MORSE SIGNALLING.—ANSWERS.

Morse signalling can be carried out at sea by sound through the medium of whistle, siren, foghorn, etc. It is of necessity a rather slow, tedious process and hence the length of the signal should be reduced as much as possible. The misuse of this form of signalling is liable to cause serious confusion at sea, and for this reason should be used with discretion.

During fog, for obvious reasons, its use should be restricted to a minimum and, indeed, signals other than single-letter signals should be used only in extreme emergency and never in frequented navigational waters.

In sound signalling the procedure is as follows:—As in flashing, the transmitting ship makes the call sign (*AA AA*, etc.). The receiving ship answers with the answering sign *TTTTT*, etc. The transmitting ship now carries on with the message right through to the end, when she makes the ending sign *AR*. When the ending sign has been made the receiving ship makes *R* (message received).

It is to be observed that the receiving ship does not answer until the ending sign is made. In the event of her missing a word she is immediately to make the repeat sign *UD* when the transmitting ship will cease signalling, then go back a few groups or words and carry on with the message. Thus, in sound signalling, the repeat sign made singly signifies "I have missed the last word, or group, please go back a few words or groups and continue message."

No call or answer will be used when transmitting single letters.

Although the general call sign is used, the transmitting and receiving ships do not exchange identities.

Example.—A vessel which has just passed a floating mine hears the fog signal of another vessel and wishes to inform her of the presence of the mine. The transmission is carried out as follows:

Component	Transmitting ship makes	Receiving ship makes
Call	<i>AA AA AA</i> , etc.	<i><u>TTTTTT</u></i> , etc.
Break sign	<i><u>BT</u></i>	
Text	Have just passed floating mine	
Ending	<i><u>AK</u></i>	<i>R</i>

QUESTIONS RELATING TO MORSE SIGNALLING

1. How would you call a vessel?
2. What is the "break sign" and when is it used?
3. How would you acknowledge the receipt of a plain language word?
4. What is the ending sign and how would you answer it?
5. What sign will the transmitting ship make on your repeating back correctly a Code group?
6. Is the break sign to be inserted before the text of a message requesting repetition?
7. What is the International Code group indicator?
8. You are unable to read a message owing to the transmitting ship's light being badly trained. What sign would you make?
9. What is the "repeat back" sign, and when is it used?

10. What is the "space sign"? When would you use it?
11. What is the ratio between a dot and a dash?
12. What is the space of time, in units, between two words or groups?
13. The receiving ship repeats back incorrectly the signal letters of the transmitting ship. What should the latter ship do?
14. In sound signalling when making single-letter signals, is it necessary to make the call and answering signs?
15. In sound signalling the receiving ship misses a word. What should she do?
16. During fog, is it necessary for ships signalling by sound to exchange identities?
17. What is the signal for a pilot by Morse signalling?

ANSWERS.

1. By (i) The general call (*AA AA AA*, etc.), or
(ii) The signal letters of ship to be called.
2. The break sign is *BT*. Made as one symbol. It is used to precede the text.
3. By making *T*.
4. The ending sign is *AR*. Made as one symbol. It is answered by *R*.
5. *C*.
6. No.
7. The group *PRB*.
8. *W*, and continue making it until satisfied with the light.
9. *G* signifies "repeat back." It may be inserted at the beginning of the text of a plain language message and is signalled separately. When used, it signifies that each word of the message is to be repeated back as soon as received.

10. The space sign is *II*. It is used to separate the signs *AA*, *AB*, *WA* and *WB*, from the words or groups which follow them. It is also used to separate whole numbers from fractions.

11. As one is to three.

12. Five units.

13. Make her signal letters until they are repeated back correctly.

14. No.

15. Make the repeat sign \overline{UD} .

16. No.

17. The International Code Signal *PT*.

CHAPTER X.

CODE GROUPS.

Single-Letter Signals—Two-Letter Signals—Signals for Points of Compass, Relative Bearings—Standard Times—Model Verb—Punctuation and Amplifying Phrases—General Code—Decode—Geographical Section—Distress Signals—Pilot Signals—Quarantine Signals—Towing Signals—Table showing International Allocation of Initial Letters of Signal Letters—Call Signs and Aircraft Markings—Signal Letters.

SINGLE-LETTER SIGNALS.

Only those marked with an asterisk should be used by flashing.

- A** I am undergoing a speed trial
- B** I am taking in or discharging explosives
- C** Yes (Affirmative)
- D** Keep clear of me—I am manoeuvring with difficulty
- E** I am directing my course to starboard
- *F** I am disabled. Communicate with me
- G** I require a pilot
- H** I have a pilot on board
- I** I am directing my course to port
- J** I am going to send a message by semaphore
- *K** You should stop your vessel instantly
- *L** You should stop. I have something important to communicate
- M** I have a doctor on board
- N** No (Negative)
- *O** Man overboard

***P** IN HARBOUR (Blue Peter)—All persons are to repair on board as the vessel is about to proceed to sea. (Note: To be hoisted at the foremast head)

AT SEA—Your lights are out, or burning badly

Q My vessel is healthy and I request free pratique

***R** The way is off my ship; you may feel your way past me

S My engines are going full speed astern

T Do not pass ahead of me

***U** You are standing into danger

***V** I require assistance

***W** I require medical assistance

X Stop carrying out your intentions and watch for my signals

Y I am carrying mails

***Z** To be used to address or call shore stations

Note—For meaning of **P**, **T**, and **X** if followed by a numeral group, see pages 16 and 18 respectively. See also Towing Signals on page 123

TWO-LETTER SIGNALS

ABANDON.

AC Aircraft *indicated if necessary* will have to be abandoned

AD I must abandon my vessel

AE I shall abandon my vessel unless you will stand by me

AF I, or crew of vessel indicated, wish to abandon my, or their, vessel but have not the means

AG I do NOT intend to abandon my vessel

AH You should abandon your vessel as quickly as possible

AI You should NOT abandon aircraft. I shall attempt to take you in tow

AJ You should NOT abandon your vessel

AK Do you intend to abandon your vessel

ACCIDENT.

AL Accident. Man, or men dangerously injured

AM Accident has occurred. I require a doctor

AN Boiler accident has occurred. I require a doctor

AFLOAT and AGROUND

AO	I am afloat
AP	I am aground
AQ	Aground seriously damaged— <i>Am, Is, Are</i>
AS	I am aground and likely to break up. Require immediate assistance.
AT	I am aground and require immediate assistance
AU	I am aground. Send what immediate assistance you can
AV	I am aground. Will you endeavour to tow me off
AW	I CANNOT be refloated by any means now available
AX	I may be refloated if prompt assistance be given
AY	You will be aground
AZ	You will be aground at low water
BA	Are you afloat

AHEAD and HEADWAY.

BC	Full speed ahead
BD	I have headway
BE	I have headway. My engines are going ahead
BF	I CANNOT make headway
BG	You should go ahead
BH	You should go ahead easy
BI	You should go ahead full speed
BJ	You should keep going ahead
BK	You should keep your engines going ahead

AIRCRAFT.

BL	Aeroplane is down in position indicated and requires immediate assistance
BM	Aeroplane reported in distress is receiving assistance
BN	Aircraft are engaged in taking off and landing on, or near, this vessel. You should NOT approach too near
BO	Aircraft <i>indicated if necessary</i> left at time indicated
BP	Aircraft <i>indicated if necessary</i> is seriously damaged. Will you take off mail and passengers

AIRCRAFT (contd.)

- BQ** Airship is down in position indicated and requires immediate assistance
- BR** Airship reported in distress is receiving assistance
- BS** All is ready to receive you at mooring mast
- BU** I am about to alight to make good defect. Will you stand by me
- BV** I am alighting in position indicated; am short of petrol
- BW** I am alighting in position indicated with engine trouble
- BX** I am alighting to pick up crew of disabled aircraft in position indicated
- BY** I am forced to alight. Stand by to pick up crew
- BZ** I shall endeavour to fly to the land now
- CA** I sighted an aeroplane at time indicated in position indicated steering course indicated
- CB** I sighted an airship at time indicated in position indicated steering course indicated
- CD** Sea is smooth enough for you to alight near me
- CE** Sea is too rough for you to alight
- CF** You CANNOT be received at mooring mast at present
- CG** You should alight as near to me as possible
- CH** You should alight to leeward of me, I am stopped
- CI** You should alight to windward of me, I am stopped
- CJ** You should prepare to receive me, or airship indicated, at mooring mast *at time indicated*
- CK** You should NOT approach mooring mast
- CL** Can you communicate with the aeroplane
- CM** Can you communicate with the airship
- CN** Have you sighted or heard of aeroplane in distress
- CO** How much longer can you remain in the air
- CP** Is aeroplane in a condition to proceed
- CQ** Is airship in a condition to proceed
- CR** Is the sea smooth enough for me to alight near you

ALONGSIDE.

- CS** You should endeavour to come alongside
CT You should NOT come alongside

ANCHOR, ANCHORING AND ANCHORAGE

- CU** Anchorage is dangerous
CV Best berth for anchoring is
CW Best berth for anchoring is in number indicated fathoms
CX I have picked up telegraph cable with my anchor
CY It is unsafe to remain at anchorage
CZ My anchor is aweigh
DA My anchor is foul. I require assistance
DB You should anchor
DC You should anchor as convenient
DF You should anchor in position indicated
DG You should anchor instantly
DH You should let go another anchor
DI You should NOT anchor on any account
DJ You should NOT attempt to make the anchorage
DK You should NOT risk anchoring unless you have very good
 ground tackle
DL How does the anchorage bear from you

ASSISTANCE.

- Aeroplane is down in position indicated and requires
 immediate assistance *BL*
 Aeroplane reported in distress is receiving assistance *BM*
 Airship is down in position indicated and requires immed-
 iate assistance *BQ*
 Airship reported in distress is receiving assistance *BR*
DM Haste is necessary
 I am aground and likely to break up. Require immediate
 assistance *AS*
 I am aground and require immediate assistance .. *AT*

ASSISTANCE (contd.)

	I am aground. Send what immediate assistance you can <i>AU</i>
DN	I am coming to your assistance
DO	I am drifting and require assistance
DP	I am in danger of fouling my anchor and need immediate assistance of a tug
	I am in distress and require immediate assistance .. <i>NC</i>
DQ	I am on fire and require immediate assistance
DR	I am proceeding to the assistance of vessel in distress in position indicated
DS	I cannot assist you, or vessel indicated
DT	I CANNOT render assistance, <i>to</i>
DU	I have parted towing hawser; can you assist me
DV	I have sprung a leak and require immediate assistance
	I may be refloated if prompt assistance be given .. <i>AX</i>
DW	I require a warp run out
DX	I require assistance, <i>of, from</i>
DY	I require diver, <i>s, for, to</i>
DZ	I require immediate assistance
EA	I will stand by you, or vessel indicated
EB	Lighthouse, or lightship <i>indicated if necessary</i> requires assistance
	My anchor is foul. I require assistance <i>DA</i>
EC	Vessel indicated is in distress and requires immediate assistance
ED	Vessel indicated requires assistance. Your distress signals are understood. Assistance is coming out to you <i>VC</i>
EF	You should render all possible assistance, <i>to</i>
EG	You should send me immediate assistance
EH	Can I assist you
EI	Can you assist me, or vessel indicated
	Can you discharge some oil to smooth sea .. <i>SF</i>
EJ	Do you require any further assistance
EK	Do you require assistance, <i>from, of</i>

EL	Do you require assistance in, to
EM	Do you require immediate assistance
EN	What assistance do you require
EO	Will you assist me, or vessel indicated
EP	Will you assist me into port, or port indicated. I am disabled as indicated

ASTERN.

EQ	Full speed astern
ER	You should go astern
ES	You should go astern easy
ET	You should go full speed astern

BAR.

EU	Bar is dangerous
EV	Bar is dangerous for small boats on ebbing tide
EW	Bar is NOT dangerous
EX	Bar is impassable
EY	What is the depth of water on the bar
EZ	What will be the best time to cross the bar

BEACON.

Position given was obtained by bearings of radio beacon	.. .. .. ..	UE
Radio beacon indicated is out of action	.. ..	UF
What is your bearing of radio beacon indicated	..	UG

BEARINGS.

FA	Entrance bears from me as indicated
FB	Place indicated bears from me as indicated
FC	How does the entrance to harbour bear from you

BOATS.

FD	All boats lost. Can you take off passengers and crew
FE	Boat has capsized <i>bearing to be indicated if necessary</i>
FG	Boat has sunk

BOATS (contd.)

FH	Boat is alongside
FI	Boat, s is, are going to your assistance
FJ	Boat, s is, are on way to you
FK	Boat is required by me, or vessel indicated
FL	Boat should endeavour to land where flag is waved or light is shown
FM	I am sinking. Send boats to take off passengers and crew
FN	I CANNOT send a boat
FO	I have NO boat available, <i>for, to</i>
FP	I have NO serviceable boats
FQ	I require a boat, or number of boats indicated, immediately
FR	I require a boat. Man overboard
	I require a boat or tug to tow me to berth .. XW
FS	I require an ash boat
FT	I require a dirt boat
FU	I require a water boat
FV	It is impossible to land
FW	There is a boat in distress, <i>bearing to be indicated if necessary</i>
FX	You should NOT attempt to land in your own boat, s
FY	You should send a boat to take off the crew
FZ	Your boat, s should keep to windward until hoisted
GA	Can you send a boat, <i>for, to</i>
GB	Can I use my own boats for landing
GC	Have you seen or heard anything of my boat
GD	How many serviceable boats have you

BROADCAST.

GE	Please broadcast the following message at the first convenient opportunity to all shipping in the vicinity
-----------	--

BUOY.

GF	Buoy is awash and is difficult to locate
GH	Buoy has broken adrift
GI	Buoy <i>indicated if necessary</i> is not in its proper position

BUOY (contd.)

- GJ** Buoy, s is, are NOT to be depended on
GK Buoy which you are approaching is NOT in its proper position
GL You should leave the buoy to port
GM You should leave the buoy to starboard
GN You should steer directly for the buoy
GO Are there any buoys or beacons
GP Can you see the buoy
GQ How must I bring the buoy to bear
GR How does the buoy bear

CABLE.

- I have picked up telegraph cable with my anchor **CX**
GS My cable is in danger of parting
GT You should veer your cable, *to length indicated*

CAUTION or DANGER.

- Anchorage is dangerous **CU**
GU Breakers, reef, rock or shoal ahead of you
GV Breakers, reef, rock or shoal on your port bow
GW Breakers, reef, rock or shoal on your starboard bow
GX Careful navigation is necessary
GY Cyclone, Hurricane, Typhoon is approaching. You should put to sea at once
GZ Entrance is dangerous
HA Entrance is impassable
HB Fairway is dangerous
HC Fairway is dangerous without a pilot
HD I am engaged in submarine survey work. You should keep clear of me
HE I have struck a shoal or obstacle
HF I, We, have a sweep out. You should keep clear of it
HG I will pass ahead of you, or vessel indicated
HI I will pass astern of you, or vessel indicated

CAUTION or DANGER (contd.)

- HJ** It is dangerous to come into less than number indicated feet of water
- HK** It is dangerous to come into less than number indicated metres of water
- HL** It is NOT safe to go so fast
It is unsafe to remain at anchorage *CY*
- HM** Navigation is dangerous owing to
- HN** Reef, or shoal, stretches number indicated miles in direction indicated
- HO** Sea or surf is too heavy for landing
- HP** Submarines are exercising in this vicinity; you should navigate with great caution
- HQ** There is a telegraph cable in the direction indicated from me
- HR** There is an obstruction in the fairway
- HS** There is much shipping in the fairway. Proceed with caution
- HT** There is shoal water or danger in direction indicated from me, or object indicated
- HU** Thick fog is coming on
- HV** Vessel indicated is standing into danger
- HW** You are clear of all danger
- HX** You are in a dangerous position
You are standing into danger *JD*
- HY** You should beware of derelict dangerous to navigation in position indicated
- HZ** You should beware of telegraph cable on anchoring
- IA** You should get on the other tack or you will be ashore
- IB** You should keep clear of firing range
- IC** You should keep clear of me. I am loaded with dangerous cargo
- ID** You should keep closer in to the shore
- IE** You should keep more towards the shore
- IF** You should keep out of the current or tide

CAUTION or DANGER (cont.)

- IG** You should keep to windward of me, or vessel indicated
IH You should pass ahead of me, or vessel indicated
IJ You should pass astern of me, or vessel indicated
IK You should prepare for a cyclone, hurricane, typhoon
IL You should remain where you are
IM You should shift your berth, it is dangerous
IN You should NOT come any closer
IO You should NOT come too close
IP You should NOT overtake me, or vessel indicated
IQ You should NOT pass ahead of me, or vessel indicated
IR You should NOT pass astern of me, or vessel indicated
IS You should NOT pass too close to me
IT Are you in danger, *from, of*

CHART.

- IU** I require a chart of the channel
IV I require a chart of the harbour

COLLISION.

- IW** I have been in collision, *with*
IX I have received serious damage in collision
IY I have sunk a vessel, *name indicated if necessary*
IZ There has been a collision between vessels indicated
JA Vessel indicated has been in collision
JB Has the vessel with which you have been in collision
 resumed her voyage
JC Have you been in collision
JD *You are standing into danger*

COLOURS (National).

- JE** Vessels which have just arrived show your colours
JF You should show your colours

COMMUNICATION.

- JG** I wish to have personal communication with you
JH You should NOT communicate, have contact, with the shore or vessel indicated

COMPASS.

- JI** I am adjusting compasses
JK I am swinging, or about to swing, for compass adjustment

COURSE.

- JL** I am about to alter course
JM I am altering course, *at, to*
JN You should alter course, *at, to*
JO You should alter course number indicated degrees to port
JP You should alter course number indicated degrees to starboard
JQ You should alter course to port
JR You should alter course to starboard
JS You should continue on your present course
JT You should follow me, or vessel indicated
JU You should indicate course to make the land or place indicated

CREW.

- JV** I require more hands

DAMAGE.

- Aircraft *indicated if necessary* is seriously damaged. Will you take off mail and passengers *BP*
 Aground seriously damaged—*Am, Is, Are* .. *AQ*
JW Boiler damaged and CANNOT be repaired at sea
JX Damage CANNOT be repaired at sea, or place indicated
JY Damage, or defects, CANNOT be repaired without assistance
JZ I have damaged my rudder. I CANNOT steer
KA My vessel is very seriously damaged

DAMAGE (contd.)

- KB** My vessel is seriously damaged. I wish to transfer passengers
KC Can damage be repaired at sea
KD Can you repair damage without assistance
KE Is your vessel, or vessel indicated, seriously damaged

DERELICT.

- KF** Derelict has been sighted, or reported, off place or in position indicated, at time and on date indicated
KG Hull of derelict is awash
KH Hull of derelict is well out of water
 You should beware of derelict dangerous to navigation in position indicated **HY**
KI Have you seen derelict

DIRECTIONS FOR SAVING LIFE.

- KJ** A lookout will be kept on the beach all night
KL I CANNOT save the vessel: take off passengers and crew
KM I will endeavour to connect with line throwing apparatus
KN Line is fast
KO Will attempt rescue with whip and breeches buoy
KP You should endeavour to send me a line
KQ You should look out for rocket line or line
KR Can you connect with line throwing apparatus
KS Have you a breeches buoy on board
KT Have you a line throwing apparatus
KU Is the line fast

DIRECTIONS TO VESSELS UNDERWAY.

- KV** You should come under my stern
KW You should come within hail
KX You should keep further away from me, or vessel indicated
KY You should keep further from the land
KZ You should keep further off

BROWN'S SIGNALLING

DIRECTIONS TO VESSELS UNDERWAY (cont.)

LA	You should keep to leeward of me, or vessel indicated
LB	You should keep under the lee of land
LC	You should keep within visual signal distance
LD	You should tack instantly
LE	You should take the way off your vessel
LF	You should use full helm when turning
LG	You should use small helm
LH	You should wear instantly

DISABLED.

LI	I am disabled
LJ	I am disabled. Will you tow me in or into place indicated
LK	I passed disabled vessel in position indicated
LM	I passed a vessel <i>name indicated if necessary</i> with her steering gear disabled in position indicated
LN	I sighted a disabled vessel in position indicated apparently without radio
LO	My engines are disabled
LP	My steering gear is disabled
LQ	One propeller is disabled, but I can proceed with the other
LR	Have you sighted a disabled vessel

DISTRESS.

LS	Hold is flooded
LT	I am dragging. Can veer no more cable and have no more anchors to let go
LU	I am dragging my anchor, s
	I am drifting and require assistance <i>DO</i>
	I am in distress and require immediate assistance <i>NC</i>
LV	I am in distress for want of fuel
LW	I am in shoal water. Direct me
	I am sinking. Send boats to take off passengers and crew <i>FM</i>

DISTRESS (cont.)

- LX** I cannot hold out any longer
LY My aircraft is in distress. Stand by me
LZ My vessel is NOT under command
MA Position given with SOS or Mayday from aircraft was
 There is a boat in distress, *bearing to be indicated*
if necessary **FW**
MB There is a vessel in distress in direction or position indicated
MC Vessel indicated appears to be in distress
 Vessel indicated is in distress and requires immediate
 assistance **EC**
MD Did you hear SOS or Mayday made by aircraft at time
 indicated
ME Have you sighted or heard of a vessel in distress
MF Is vessel *bearing indicated if necessary* in distress
MG What was position given with SOS or Mayday from
 aircraft

DOCTOR.

- Accident has occurred. I require a doctor .. **AM**
 Boiler accident has occurred. I require a doctor **AN**
MH Doctor requires assistance
MI There is NO doctor available
MJ Have you a doctor
MK May I send a sick person to see your doctor

DRAUGHT OF WATER.

- ML** My draught of water is number indicated feet
MN My draught of water is number indicated metres
MO Your draught of water must NOT exceed number indicated
 feet.
MP Your draught of water must NOT exceed number indicated
 metres
MQ What is your draught of water

ENGINES.

MR	I have hot bearings					
MS	I am obliged to stop engines					
	My engines are disabled	..	..	..	..	<i>LO</i>
MT	My engines are stopped					

FAIRWAY.

MU	Fairway has altered, do NOT try it					
MV	Fairway is buoyed					
MW	Fairway is NOT buoyed					
MX	Fairway is clear					
	Fairway is dangerous	..	..	..	..	<i>HB</i>
	Fairway is dangerous without a pilot			..	..	<i>HC</i>
MY	Fairway is mined					
MZ	Fairway is NOT mined					
NA	Fairway is obstructed by a vessel					
NB	Fairway is obstructed by vessel aground					
NC	<i>I am in distress and require immediate assistance</i>					
ND	Fairway is obstructed by sunken wreck					
	There is an obstruction in the fairway	..	..			<i>HR</i>
NE	You should keep in the centre of the fairway					
NF	You should keep on the port side of the fairway					
NG	You should keep on the starboard side of the fairway					
NH	Is the fairway buoyed					
NI	What is the state of the fairway					

FIRE.

NJ	Fire can be reached easily	
NK	Fire is difficult to reach	
NL	Fire is extinguished	
NM	Fire is gaining	
NO	Fire is gaining rapidly. Take off passengers and crew	
NP	Fuel oil is on fire	
NQ	I am on fire	

FIRE (contd.)

	I am on fire and require immediate assistance	..	<i>DQ</i>
NR	I am on fire, have flooded hold		
NS	I am on fire in bunker, s		
NT	I am on fire in hold, s		
NU	I am on fire in passengers' or crews' quarters		
NV	I am on fire in storeroom		
NW	I am on fire. Send boats to take off passengers and crew		
NX	I can get the fire under control without assistance		
NY	My cargo in the hold is on fire		
NZ	Vessel indicated is on fire		
OA	Are you on fire		
OB	Is fire extinguished		
OC	Where is the fire		

HARBOUR.

OD	Harbour is closed		
OE	Harbour is open		
OF	I am proceeding out of harbour		
OG	You should NOT attempt to enter the harbour, or place indicated		
OH	Can I proceed into harbour		
OI	Do you intend to enter the harbour		

HAWSER.

OJ	You should send a boat with a hawser		
OK	Have you a hawser		

HEAVE TO.

OL	Heave to or I will open fire on you		
OM	You should heave to. Head off shore		
ON	You should heave to, stop at once		
OP	You should heave to. I will send a boat		

ICE.

- OQ** I passed numerous icebergs on or near track
OR I sighted ice in position indicated
OS I sighted berg ice in position indicated
OT I sighted berg ice and pack ice in position indicated
OU I sighted pack ice in position indicated
OV I have NOT sighted any ice and have had clear weather
OW Ice has been encountered in position indicated
OX Ice has been reported in position indicated
OY Icebergs reported in position indicated
OZ You should take precaution owing to ice conditions
PA Have you sighted any ice. If so, state position and whether berg or pack

LAND, LANDMARKS and LIGHTS.

- PB** All lights are out along the coast of
PC I am not in my correct position. [To be used by a lightship]
PD I, or aircraft indicated, expect, s to arrive over aerodrome about time indicated and will require lights
PE Light buoy is extinguished
PF Lights or fires will be shown at the best landing-places
PG Lightship at place indicated is out of her position
PH You should indicate the bearing of the light, lighthouse or lightship from you
PI You should keep the light, lighthouse or lightship between bearings indicated
PJ On what bearing shall I keep light or landmark indicated
PK When did you last sight the land

LEAK.

- PL** Boiler is leaking seriously
PM Boiler tube, s is, are leak, ing, y
PN I CANNOT stop the leak
PO I have number indicated feet of water in the hold

LEAK (contd.)

- PQ** I have sprung a leak
I have sprung a leak and require immediate assistance *DV*
- PR** I have stopped the leak
- PS** Leak is gaining rapidly
- PT** *I require a pilot*
- PU** Vessel indicated has sprung a leak
- PV** Can you stop the leak
- PW** Have you, or has vessel indicated, sprung a leak
- PX** Is the leak dangerous

LIFEBOAT.

- PY** I have NO lifeboat
- PZ** I have sent for a lifeboat
- QA** Lifeboat, s CANNOT get alongside
- QB** Lifeboat CANNOT reach you
- QC** Lifeboat is going to you
- QD** There is NO lifeboat here
- QE** Lifeboat, s should approach vessel as near as possible and drag people on board
- QF** You should send a lifeboat to take off crew
- QG** You should send all available lifeboats
- QH** Do you require a lifeboat

LIGHTS (Ships).

- QI** I will show a light to-night when I alter course. Nature of light to be indicated
- QJ** You should keep a light showing
- QK** You should show no lights
- QL** (*See page 125*)
- QM** Your lights are out, or want trimming

LIGHTERS.

- QN** I require a lighter, or number of lighters indicated, immediately
- QO** No more lighters are available

MAIL.

- QP** Aircraft *indicated if necessary* has mails and passengers to transfer to you
- QQ** (*See page 125*)
- QR** Air mail has arrived, *from*
- QS** Air mail has NOT arrived, *from*
- QT** Air mail is due to arrive here, or at place indicated, *at, on*
- QU** Air mail is due to leave, *at, on*
- QV** I have on board mail for place indicated
- QW** I have on board mail for you, or vessel indicated
- QX** I have on board mail from place indicated
- QY** You should send for your mail
- QZ** Are there any mails or passengers for transfer to aircraft *indicated if necessary*
- RA** Has air mail arrived, *from*
- RB** Has the mail arrived from place indicated
- RC** Have you any mail, *for place indicated*
- RD** Have you any mail for me
- RE** When is air mail due to leave
- RF** Will you take mail for place indicated

MESSAGES and TELEGRAMS.

- RG** I have telegram, s for you
- RH** Message has been received
- RI** You should repeat back the message
- RJ** Have you any message for me

MINES.

- RK** A mine in sight *bearing indicated if necessary*
- Fairway is mined **MY**
- Fairway is NOT mined **MZ**
- RL** I sighted a mine in position indicated
- RM** Minefield ahead of you. Heave to until you receive instructions
- RN** Mines are reported to be in vicinity of

MINES (contd.)

- RO** There is danger from mines in this area, or area indicated
RP You should keep a look out for mines
RQ Is there any danger from mines

MISCELLANEOUS.

- RS** Is all well with you
RT What is the matter, *with*
RU What was the matter, *with*
RV Where are you bound
RW Where are you from

MUTINY.

- RX** Mutiny. I require assistance
RY Crew have mutinied

NAME.

- RZ** What is the name of light, lighthouse, or lightship in sight,
bearing indicated if necessary
SA What is the name of the vessel or signal station in sight,
bearing indicated if necessary
SB What is the name of vessel with which you collided
SC What is the name of your vessel

OIL.

- SD** I am short of lubricating oil. Can you supply
SE I am short of petrol. Can you supply
SF Can you discharge some oil to smooth sea

ORDERS.

- SG** I have orders for you, or vessel indicated
SH I have orders for you to discharge cargo at place indicated
SI I require orders
SJ Have you any orders for me

PASSENGERS.

All boats lost. Can you take off passengers and crew *FD*

SK I wish to land passengers

SL Have you any passengers to transfer to me

PILOT.

I require a pilot *PT*

SM It is dangerous to proceed without a pilot

SN Pilot is coming out to you now, or at time indicated

SO Pilot boat is most likely on bearing indicated, or off place indicated

SP You should send a boat for a pilot

SQ Have you seen a pilot boat

SR Where can I pick up a pilot, *for*

POLICE.

ST I require police boat

PORT (Harbour).

SU I wish to enter dock (wet)

SV I wish to enter the port

SW I wish to leave the port

SX Permission is urgently required to enter harbour

POSITION.

Position given with SOS or Mayday from aircraft was *MA*

SY Are you able to fix your position by shore bearings

What was position given with SOS or Mayday from aircraft *MG*

PROCEED, Etc.

SZ I am proceeding to the anchorage, or place indicated, with all speed

TA I can proceed at number indicated knots

TB I can proceed with one engine

TC I can only proceed at slow speed

TD You should proceed at number indicated knots

PROCEED, Etc. (contd.)

- TE** You should proceed at slow speed whilst passing vessel, s
or station making this signal
- TF** You should proceed with great caution at easy speed
- TG** Is your vessel, or vessel indicated, in a condition to proceed

PROPELLER.

- TH** I have lost my propeller
- TI** Propeller shaft is broken

PROVISIONS.

- TJ** I have only sufficient provisions for number indicated
days
- TK** I require provisions urgently
- TL** Do you require provisions

QUARANTINE and PRATIQUE.

- TM** I am in quarantine *number of days remaining to be indicated
if necessary*
- TN** I have a clean bill of health from place indicated
- TO** I have, or vessel indicated has, pratique
- TP** No one allowed on board
- TQ** You have pratique
- TR** You should hoist the quarantine signal
- TS** Do you come from a port which will necessitate your being
placed in quarantine
- TU** Have I pratique
- TV** Have you, or has vessel indicated, a clean bill of health
- TW** Have you had any contact with infected vessels or places

RADIO.

- TX** I am endeavouring to get in touch by radio
- TY** My radio is manned
- TZ** My radio is NOT working
- UA** No one on board able to work radio apparatus
- UB** You should man your radio room
- UC** Can you use your radio

RADIO BEACON.

- UE** Position given was obtained by bearings of radio beacon
UF Radio beacon indicated is out of action
UG What is your bearing of radio beacon indicated

RECKONING.

- UH** My reckoning is NOT to be depended on

REPLY.

- UI** Reply is "Yes" (In the affirmative)
UJ Reply is "No" (In the negative)

RUDDER.

- UK** My rudder is hard over, vessel's head is going to port, to the left
UL My rudder is hard over, vessel's head is going to starboard, to the right
UM My rudder is jammed

SEARCHLIGHT.

I am dazzled by your searchlight, s; douse or lift it,
 them ZO

SICK, SICKNESS.

- UN** The sickness is contagious or infectious
UO The sickness is NOT contagious or infectious
UP You should NOT have contact with vessel or place indicated on account of sickness
UQ Is the sickness contagious or infectious
UR Is there any sickness at place indicated
US May I land my sick
UT What is the sickness

SIGNALS.

- UV** I am waiting for you to hoist your Answering Pendant close up
UW I CANNOT distinguish your flags
UX I do NOT use semaphore
UY I shall repeat my signal after the number indicated group

SIGNALS (contd.)

- UZ** I wish to signal to you. Will you come within easy signal distance
- VA** My last hoist was incorrect. I will hoist it correctly
- VB** Signal is NOT understood though flags are distinguished
- VC** Your distress signals are understood. Assistance is coming out to you
- VD** Your distress signals are understood. The nearest life saving station is being informed
- VE** Please repeat the signal now being made to me by vessel or station *bearing indicated if necessary*
- VF** Vessel, s which has, have, just arrived should hoist signal letters
- VG** You should cancel the whole flag signal now being made
- VH** You should hoist your signal letters
- VI** You should keep a look out for signals from me, or from vessel or station indicated
- VJ** You should repeat your signal *the number of hoist required is to be indicated if necessary*
- VK** You should transmit your signal by radio
- Can you communicate with the aeroplane .. *CL*
- Can you communicate with the airship *CM*

SOUNDINGS.

- VL** I am in number indicated feet of water
- VM** I am in number indicated metres of water
- VN** There are number indicated feet of water on the bar now, or at time indicated
- VO** There are number indicated metres of water on the bar now, or at time indicated
- VP** You will have enough water over the bar
- VQ** You will NOT have enough water over the bar
- VR** You will NOT have less than number indicated feet of water
- VS** You will NOT have less than number indicated metres of water

SOUNDINGS (contd.)

- VT** What are the least soundings you have at high water
VU What are the least soundings you have at low water
VW What is the least depth of water in feet I shall have at place and time indicated
VX What is the least depth of water in metres I shall have at place and time indicated
VY What soundings have you

SPEED.

- VZ** You should increase your speed, *to speed indicated*
WC You should proceed at your utmost speed
WD You should reduce your speed, *to speed indicated*
WE Are you proceeding at full speed
WF What is your present speed

STEAM.

- WG** I have steam up and engines ready
WH Steam will NOT be ready for number indicated minutes
WI You should keep steam up
WJ You should raise steam and report when ready
WK You should raise steam as quickly as possible
WL You should raise steam to ensure safety
WM At what time will you have steam up
WN Have you steam up
WO Shall I raise steam

STEER

- WP** You are steering too much to port
WQ You are steering too much to starboard
WR You should steer directly for the beacon, or object indicated
 You should steer directly for the buoy **GN**
WS You should steer more to port
WT You should steer more to starboard
WU What course should I steer to make nearest land
WV Will you direct me how I should steer

STOP

WX	I CANNOT stop to communicate with you
WY	You should stop your engines immediately
WZ	You should stop your vessel instantly

TIDE

XA	Ebb tide,s
XB	Flood tide,s
XC	High tide slack water
XD	Low tide slack water
XE	Tide is falling
XF	Tide is rising
XG	At high water you will have number indicated feet
XH	At high water you will have number indicated metres
XI	At low water you will have number indicated feet
XJ	At low water you will have number indicated metres
XK	You should wait until high water
XL	What is the rise and fall of the tide
XM	What is the state of the tide
XN	What is the time of next high water
 XO	What is the time of next low water
XP	When will the tide commence to ebb
XQ	When will the tide commence to flood
XR	When will the tide turn

TOW—TOWING.

	I am disabled. Will you tow me in or into place indicated <i>LJ</i>
XS	I am towing a float
XT	I am towing a target
XU	I CANNOT take you, or vessel indicated, in tow I have parted towing hawser, can you assist me <i>DU</i>
XV	I, or vessel indicated, require,s towing
XW	I require a boat or tug to tow me to berth
XY	Can you take me in tow
XZ	Shall I take you in tow

TUG.

	I am in danger of fouling my anchor and need immediate assistance of a tug <i>DP</i>
YA	I require a tug or number indicated tugs
	I require a tug, or boat to tow me to berth <i>XW</i>

TUG (contd.)**YB** There are NO tugs available**YC** Tug is, or number indicated tugs are, on its, their, way to way to you**UNDER WAY****YD** I am, or vessel indicated is, under way**YE** You should get under way as soon as you can, *reason may be indicated.***YF** You should keep under way**YG** Are you, or vessel indicated under way**YH** At what time will you be under way**WATER.****YI** I have water for number indicated days only**YJ** I require water immediately**YK** I require water for radiators. Can you supply**YL** Do you require boiler water**YM** Do you require drinking water**WAY.****YN** I have steerage way**YO** I have NOT yet steerage way**YP** I have sternway**WEATHER.****YQ** Barometer is falling**YR** Barometer is rising**YS** Barometer is steady**YT** Bad weather is expected from direction indicated**YU** Gale is expected from the direction indicated**YV** Heavy weather coming: take necessary precautionsCyclone, hurricane, typhoon is approaching. You should
put to sea at once *GY*Thick fog is coming on *HU***YW** Weather report is NOT availableYou should prepare for a cyclone, hurricane, typhoon *IK***YX** You should wait until the weather moderates**YZ** Is bad weather expected**ZA** What is the barometer doing**ZB** What is the weather forecast for to-day**ZC** What is the weather forecast for to-morrow

WEIGHING.

- ZD** I am ready to weigh
ZE I shall weigh as soon as the weather permits
ZF I shall weigh immediately, or at time indicated
ZG You should prepare to weigh
ZH You should weigh, cut or slip. Wait for nothing
ZI You should weigh immediately, or at time indicated
ZJ Are you ready to weigh

WHISTLE or SIREN.

- ZK** I shall signal with whistle or siren during fog
ZL You should sound whistle or siren at intervals

WIND.

- ZM** Direction and force of wind is
ZN What is the wind direction and force
ZO I am dazzled by your searchlight,s; douse or lift it, them

Signals for Ships on fire with Explosive Cargoes

The following signals are being adopted regarding ships on fire with explosive cargoes:—

- (i) **ZP** .. I am on fire. Explosion is imminent. All ships stand clear.
(ii) **ZQ** .. I am on fire. Cargo may detonate. Request immediate assistance.
(iii) **ZR** .. I am on fire. Little danger of explosion. Request immediate assistance.
(iv) **ZS** .. I am on fire. No danger of explosion. Danger of intense heat and dense smoke with possible toxic effects. Request immediate assistance.
(v) **ZT** .. I am on fire. No risk of explosion, but serious danger of toxic effects. Request immediate assistance.

POINTS OF COMPASS

North	JUG	South	NTG	East	FKO	West	QLG
N. by E.	JUJ	S. by W.	NTJ	E. by S.	FKR	W. by N.	QLI
N.N.E.	JUQ	S.S.W.	NTR	E.S.E.	FKU	W.N.W.	QLL
N.E. by N.	JUO	S.W. by S.	NTT	S.E. by E.	NTM	N.W. by W.	JUV
N.E.	JUM	S.W.	NTS	S.E.	NTL	N.W.	JUT
N.E. by E.	JUN	S.W. by W.	NTU	S.E. by S.	NTN	N.W. by N.	JUU
E.N.E.	FKT	W.S.W.	QLM	S.S.E.	NTQ	N.N.W.	JUR
E. by N.	FKQ	W. by S.	QLJ	S. by E.	NTI	N. by W.	JUK

RELATIVE REARINGS.

Right ahead .. RBF

Right astern .. RCA

Points.

AAA	1 point on the port bow	ABG	1 point on the starboard bow
AAB	2 points on the port bow	ABH	2 points on the starboard bow
AAC	3 points on the port bow	ABI	3 points on the starboard bow
AAD	4 points on the port bow	ABJ	4 points on the starboard bow
AAE	3 points before the port beam	ABK	3 points before the starboard beam
AAF	2 points before the port beam	ABL	2 points before the starboard beam
AAG	1 point before the port beam	ABM	1 point before the starboard beam
AAH	On the port beam	ABN	On the starboard beam
AAI	1 point abaft the port beam	ABO	1 point abaft the starboard beam
AAJ	2 points abaft the port beam	ABP	2 points abaft the starboard beam
AAK	3 points abaft the port beam	ABQ	3 points abaft the starboard beam
AAL	On the port quarter	ABR	On the starboard quarter
AAM	3 points on the port quarter	ABS	3 points on the starboard quarter
AAN	2 points on the port quarter	ABT	2 points on the starboard quarter
AAO	1 point on the port quarter	ABU	1 point on the starboard quarter

Degrees.

AAP	10° to port	ABV	10° to starboard
AAQ	20° to port	ABW	20° to starboard
AAR	30° to port	ABX	30° to starboard
AAS	40° to port	ABY	40° to starboard
AAT	50° to port	ABZ	50° to starboard
AAU	60° to port	ACA	60° to starboard
AAV	70° to port	ACB	70° to starboard
AAW	80° to port	ACC	80° to starboard
AAX	90° to port	ACD	90° to starboard
AAZ	100° to port	ACE	100° to starboard
ABA	110° to port	ACF	110° to starboard
ABB	120° to port	ACG	120° to starboard
ABC	130° to port	ACH	130° to starboard
ABD	140° to port	ACI	140° to starboard
ABE	150° to port	ACJ	150° to starboard
ABF	160° to port	ACK	160° to starboard
		ACL	170° to starboard
		ACM	180° to starboard

STANDARD TIMES.

Hours and Minutes Plus or Minus from G.M.T.	Standard Times.
ACN + 12	Fiji Islands
ACO + 11/30	New Zealand
ACP + 11	Marshall Islands
ACQ + 10	British New Guinea
ACR + 9/30	South Australia
ACS + 9	Japanese Central
ACT + 8	Chinese (Japanese Western)
ACU + 7	Straits Settlements
ACV + 6	
ACW + 5/30	India
ACX + 5	
ACY + 4	
ACZ + 3	
ADA + 2	East European
ADB + 1	Mid European
ADC 0 G.M.T.	G.M.T. West European
ADD - 1	
ADE - 2	South Atlantic
ADF - 3	Eastern Brazil
ADG - 4	Atlantic
ADH - 4/30	Venezuela
ADI - 5	Eastern
ADJ - 6	Central
ADK - 7	Mountain
ADL - 8	Pacific
ADM - 9	
ADN - 10	
ADO - 10/30	Hawaiian
ADP - 11	
ADQ - 11/30	British Western Samoa
ADR	Ship's time (Longitude of Meridian in use may be indicated)
ADS	Standard Time of Country or Place indicated
ADT	Standard Summer Time of Country or Place indicated
ADU	Zone time of Zone plus (number indicated)
ADV	Zone time of Zone minus (number indicated)

MODEL VERB.**AFFIRMATIVE.**

ADW	<i>Glean.</i> (An order)
ADX	<i>I glean</i> <i>I am gleaning</i>
ADY	<i>He, She, It, or —, gleans</i> <i>He, She, It, or —, is gleaning</i>
ADZ	<i>We glean</i> <i>We are gleaning</i>
AEA	<i>You glean</i> <i>You are gleaning</i>
AEB	<i>They, or — s, glean</i> <i>They, or — s, are gleaning</i>
AEC	<i>I was gleaning</i>
AED	<i>He, She, It, or —, was gleaning</i>
AEE	<i>We were gleaning</i>
AEF	<i>You were gleaning</i>
AGE	<i>They, or — s, were gleaning</i>
AEH	<i>I gleaned</i> <i>I have gleaned</i>
AEI	<i>He, She, It, or —, gleaned</i> <i>He, She, It, or —, has gleaned</i>
AEJ	<i>We gleaned</i> <i>We have gleaned</i>
AEK	<i>You gleaned</i> <i>You have gleaned</i>
AEL	<i>They, or — s, gleaned</i> <i>They, or — s, have gleaned</i>
AEM	<i>I will glean</i>
AEN	<i>He, She, It, or —, will glean</i>
AEO	<i>We will glean</i>
AEP	<i>You will glean</i>
AEQ	<i>They, or — s, will glean</i>
AER	<i>I would glean</i>

AFFIRMATIVE (contd.)

AES	<i>He, She, It, or —, would glean</i>
AET	<i>We would glean</i>
AEU	<i>You would glean</i>
AEV	<i>They, or — s, would glean</i>

NEGATIVE

AEW	<i>Do not glean. (An order)</i>
AEX	<i>I do not glean</i> <i>I am not gleaning</i>
AEY	<i>He, She, It, or —, does not glean</i> <i>He, She, It, or —, is not gleaning</i>
AEZ	<i>We do not glean</i> <i>We are not gleaning</i>
AFA	<i>You do not glean</i> <i>You are not gleaning</i>
AFB	<i>They, or — s, do not glean</i> <i>They, or — s, are not gleaning</i>
AFC	<i>I was not gleaning</i>
AFD	<i>He, She, It, or —, was not gleaning</i>
AFE	<i>We were not gleaning</i>
AFF	<i>You were not gleaning</i>
AFG	<i>They, or — s, were not gleaning</i>
AFH	<i>I did not glean</i> <i>I have not gleaned</i>
AFI	<i>He, She, It, or —, did not glean</i> <i>He, She, It, or —, has not gleaned</i>
AFJ	<i>We did not glean</i> <i>We have not gleaned</i>
AFK	<i>You did not glean</i> <i>You have not gleaned</i>
AFL	<i>They, or — s, did not glean</i> <i>They, or — s, have not gleaned</i>
AFM	<i>I will not glean</i>

NEGATIVE (contd.)

AFN	<i>He, She, It, or —, will not glean</i>
AFO	<i>We will not glean</i>
AFP	<i>You will not glean</i>
AFQ	<i>They, or — s, will not glean</i>
AFR	<i>I would not glean</i>
AFS	<i>He, She, It, or —, would not glean</i>
AFT	<i>We would not glean</i>
AFU	<i>You would not glean</i>
AFV	<i>They, or — s, would not glean</i>

INTERROGATIVE.

AFW	<i>Do I glean</i> <i>Am I gleaning</i>
AFX	<i>Does he, she, it, or —, glean</i> <i>Is he, she, it, or —, gleaning</i>
AFY	<i>Do we glean</i> <i>Are we gleaning</i>
AFZ	<i>Do you glean</i> <i>Are you gleaning</i>
AGA	<i>Do they, or — s, glean</i> <i>Are they, or — s, gleaning</i>
AGB	<i>Was I gleaning</i>
AGC	<i>Was he, she, it, or —, gleaning</i>
AGD	<i>Were we gleaning</i>
AGE	<i>Were you gleaning</i>
AGF	<i>Were they, or — s, gleaning</i>
AGG	<i>Did I glean</i> <i>Have I gleaned</i>
AGH	<i>Did he, she, it, or —, glean</i> <i>Has he, she, it, or —, gleaned</i>
AGI	<i>Did we glean</i> <i>Have we gleaned</i>

INTERROGATIVE (contd.)

AGJ	Did you <i>glean</i> Have you <i>gleaned</i>
AGK	Did <i>they, or — s, glean</i> Have <i>they, or — s, gleaned</i>
AGL	Will I <i>glean</i>
AGM	Will <i>he, she, it, or —, glean</i>
AGN	Will we <i>glean</i>
AGO	Will you <i>glean</i>
AGP	Will <i>they, or —s, glean</i>

PUNCTUATION AND AMPLIFYING PHRASES.

AGQ	FULL STOP .
AGR	QUESTION mark ?
AGS	The following is in PLAIN LANGUAGE
AGT	The following is a REQUEST
AGU	The following is ADVICE or a SUGGESTION
AGV	Group which follows is an ORDER
AGW	Group which follows is a QUESTION
AGX	Group which follows is to be read in the COMPARATIVE
AGY	Group which follows is to be read in the NEGATIVE
AGZ	Group which follows is to be read in the PLURAL
AHA	Group which follows is to be read in the SINGULAR
AHB	Group which follows is to be read in the SUPERLATIVE

GENERAL CODE.

AHX	ABLE SEAMAN, men				
ALL	ACTIVE, ly				
ALM	ACTIVITY				
ALN	ACUTE				
AMH	ADEQUATE, ly				
	ANCHOR				
AXE	Anchor, s (The Anchor)				
AXG	Bower anchor, s				
	Floating, Sea anchor, s	..	..	..	.. <i>RBK</i>
	Position of lost anchor is	..	..	..	.. <i>LFH</i>
BBE	AND				
BDC	APPENDICITIS				
BGI	ARRIVE, s				
	Arriving— <i>Am, Is, Are</i>				
BGP	Arrive, s at				
	Arriving at— <i>Am, Is, Are</i>				
BGQ	Arrive, s at the anchorage				
	Arriving at the anchorage— <i>Am, Is, Are</i>				
BHR	Arrive, s on or before				
	Arriving on or before— <i>Am, Is, Are</i>				
BIR	Expect, s to arrive, <i>at on</i>				
BIS	I, or vessel indicated, expect, s to arrive, <i>at, on</i>				
BMQ	AT				
BMR	At place indicated				
BMS	At time indicated				
BWI	True bearing, s, <i>of</i>				
	BERTH				
BYH	BERTH, s (Place for anchoring, mooring, etc.)				
BYK	Good berth, s				
CBE	Blade, s, ing (Turbine)				
	BOARD				
CCX	BOARD, s (To go on board)				
	Boarding— <i>Am, Is, Are</i>				

CDE	ON BOARD
CDF	All on board
CDG	Not on board
CEA	Sent on board— <i>Has, Have, ing</i>
CEB	BOARD OF TRADE
CPR	BY
CPT	By (By means of)
	By (According to) <i>RAW</i>
	CABLE
CPY	CABLE, s (Chain)
CQL	CABLE, s (200 yards)
CQN	CABLE, s (Electric)
CXX	CARRY, ies
	Carrying— <i>Am, Is, Are</i>
CYB	Carried— <i>Has, Have, ing</i>
DDD	I require a chart of
DJF	COAL
DJI	Bituminous coal
DJJ	Bunker coal
DJK	North country (Newcastle) coal
DLE	CODE, s (Signal)
	Coding— <i>Am, Is, Are</i>
DYM	CONTROL, s
	Controlling— <i>Am, Is, Are</i>
	CURRENT
EFW	CURRENT (Electric)
EFX	CURRENT, s (Sea, Air, etc)
EGL	Current, or tide, sets on shore.
EGM	Current, or tide, sets to the
EHN	CYCLONE, s, ic
EHW	You are steering towards the centre of the cyclone, hurricane, typhoon
	You should prepare for a cyclone, hurricane, typhoon <i>IK</i>

EPS **DELAY, s**

EQA **DELAYED**—*Has, Have, ing*

EQB Delayed by

ESF **DEPRESSION**

ESG Meteorological Office reports depression approaching
from direction indicated

DESPATCH

DESPATCH, es (Send) **RFF**

Despatching—*Am, is, Are*

Despatched—*Has, Have, ing* **RFG**

EUL **DETAIN, s**

Detaining—*Am, Is, Are*

EUM Detained—*Has, Have, ing*

EUN Detained by

EXG **DISABLE, s**

EXI Disabled vessel, s

I am disabled. Communicate with me **F**

I am disabled. Will you tow me in, or into place
indicated **LJ**

Turbine blading is stripped. I am disabled.. .. . **PLI**

DISCHARGE

EYK **DISCHARGE, s** cargo

Discharging cargo—*Am, Is, Are*

EYS I am ready to discharge cargo

FCP **DISTRIBUTE, s.**

Distributing—*Am, Is, Are*

FCQ Distributed—*Has, Have, ing*

DOCK

FDL **DOCK, s** (Dry)

FDS I, or vessel indicated, will have to dry dock to repair
damage

FED **DOCK, s** (Wet)

Docking—*Am, Is, Are*

FER DOCTOR, s (Surgeon)

FJG DURING, *the*

FKO EAST

FKP Due East

FKQ East by North

FKT East North East

FKU East South East

FKV East, ward from, of

FKW From *the* East, ward

EXAMINE

FTS EXAMINE, s (Interrogate)

Examining—*Am, Is, Are*

FTT Examined—*Has, Have, ing*

FVX EXPERIENCE, s

Experiencing—*Am, Is, Are*

FWA Experienced—*Has, Have, ing*

FWJ EXPLODE, s

Exploding—*Am, Is, Are*

FYU FAIRWAY, s

GDQ FIND, s, *that*

Finding, *that*—*Am, Is, Are*

GDR Found, *that*—*Has, Have, ing*

GHW Flood, s (Tide)

Flooding—*Is*

GJB FOG, s, *gy*

GJE Fog is coming on

GJL I have had fog whilst passing through ice area

Land is totally obscured by fog *IDO*

GJN Owing to *the* fog

GKA FOR

FOR (For the purpose of) *RLG*

GKD For place indicated

GLD FOREPEAK

GLE	Forepeak is flooded						
GNL	FROM						
	From ahead .. ..	..	..	..	..	..	<i>ARX</i>
	HATCH , es, hatchway, s	..	..	..	..	..	<i>RID</i>
	HAVE						
HAC	To have						
HAG	Not to have been						
	I have .. ..	..	..	..	..	..	<i>RPQ</i>
	Have I .. ..	..	..	..	..	..	<i>RQL</i>
	Have I been .. ..	..	..	..	..	..	<i>ROW</i>
	Have I to .. ..	..	..	..	..	..	<i>ROC</i>
	Have you .. ..	..	..	..	..	..	<i>RQO</i>
HDM	HEAVE , s in						
	Heaving in— <i>Am, Is, Are</i>						
HDN	Heaved in— <i>Has, Have, ing</i>						
HDO	HEAVE , s TO						
	Heaving to— <i>Am, Is, Are</i>						
HDP	I CANNOT heave to						
HED	HEIGHT , s, <i>of</i>						
HFA	HILL , s						
	HIM .. ..	..	..	..	..	..	<i>RIF</i>
	HIMSELF .. ..	..	..	..	..	..	<i>RIG</i>
HGG	HOLE , s						
	Holing— <i>Am, Is, Are</i>						
HGH	Holed— <i>Has, Have, ing</i>						
HHV	HOUR , s						
HHW	Business hours						
HJH	I (Letter)						
HJI	I (Self)						
HLA	ICE						
HMB	You can get through the ice						
HMC	You will encounter ice beyond						
HMD	Can one break through the ice						

HNH	IGNORANT , ce, of ILL , ness, of <i>RIP</i>
HOK	IN
HOL	In time indicated
HOM	In place indicated
HQU	INFORM , s Informing— <i>Am, Is, Are</i>
HRB	Please inform owners
HZF	JULY
HZG	JUNE
HZH	JUNK , s
HZI	JURY (Temporary)
IBO	KNOT , s
ICN	LABOUR , s Labouring— <i>Am, Is, Are</i>
	LAND
IDH	LAND (The Land)
IDO	Land is totally obscured by fog
IDP	Land is visible but hazy
	LAST
IFP	LAST (Most recent)
IFQ	LAST (Latest or Final)
IFR	LAST , s (Endure)
IGC	LATITUDE , s
IGD	North Latitude
IGE	South Latitude
IKO	LEDGE , s
IKP	To LEE -ward of On the Lee side, of <i>NJI</i>
	LIGHT
INV	LIGHT (Lightly laden)
INW	LIGHT , LY (Not heavy)

INX	LIGHT (Medium of vision)
INY	LIGHT (Not dark)
IQV	LIGHTEN , s Lightening— <i>Am, Is, Are</i>
IQY	LIGHTER , s
IQZ	Ammunition lighter, s
IRA	Coal lighter, s
IVN	LONGITUDE
IVO	East Longitude
IVP	West longitude
IVQ	Longitude by dead reckoning, <i>is</i>
IVR	Longitude by observation, <i>is</i>
IXT	MAGAZINE , s
IXU	MAGNETIC MAKE
IZQ	MAKE , s (Achieve)
JAT	MAN , s Manning— <i>Am, Is, Are</i>
JFK	MESSAGE , s
JFL	Message time of origin indicated
JGK	You have abridged the message so that it is unintelligible
JGL	Your message appears incorrectly coded, check and repeat the whole
JGM	Your message <i>indicated if necessary</i> has been received and is understood
	MINE
JIU	MINE , s (Mineral, etc.)
JIV	MINE , s (Explosive)
JRB	NECESSARY , <i>ily</i>
JRK	It will be necessary, <i>to, for</i>
JTL	NIGHT , s <i>of</i>
JWC	NOTIFY , <i>ies</i> Notifying— <i>Am, Is, Are</i>

JWD Notified—*Has, Have, ing*

OBJECT

JXN OBJECT, s (Thing)

JXO Objects are visible at distance indicated

JXP OBJECT, s, *to* (Make objection)

KBR **OIL**

KBS Colza Oil

Crude oil **RKO**

KCL Tons of oil fuel

KDC OIL, s (Take in oil fuel)

Oiling—*Am, Is, Are*

ON

KDP On *the* day or date indicated

ORDER

KFN In order to, that

KFZ ORDER, s (Requisition, s)

KGC Order, s, *for, to* (Command)

KGO I am waiting for orders

KGU I have no orders

I have telegraphed for further orders **OUA**

I have telegraphed to your owners for orders for you **OBU**

KKO **OUTWARD**, s

Outward bound **RKQ**

KLG **OVERLOAD**, s

Overloading—*Am, Is, Are*

KLH Overloaded—*Has, Have, ing*

KLO **OWE**, s

Owing—*Am, Is, Are*

KLP Owned—*Has, Have, ing*

OWING TO (On account of) **RKU**

KLQ **OWNER**, s

KLR I have arranged with the owners of the

KLS I must consult owners

PASS

- KPI** PASS, ES (Permit)
 Passed—*Has, Have, ing* *RKY*
- KPK** PASS, ES (Goes or Goes past)
 Passing—*Am, Is, Are*

PILOT

- KXF** PILOT, s (Air)
 Piloting—*Am, Is, Are*
- KXH** PILOT, s (Ships)
 Piloting—*Am, Is, Are*
- KXX** I am unable to drop my pilot
- KYK** CHANGE, s, PILOT, s
 Changing pilot, s—*Am, Is, Are*
- KYL** I must change pilot
- KYM** Changed pilot, s—*Has, Have, ing*

LBE PLEASE

- LBF** Will you please

LEK POSITION, s

- LET** In position
- LFE** Position given was obtained by observations
- LFH** Position of lost anchor is
- LFL** Present position, *of*
- LFN** Present approximate position of the vessel indicated is
- LFO** Vessel's position, *at time indicated*

LIF PRACTICABLE, for, to**LIK PRATIQUE**

- LIL** I have **NOT** got pratique
- LIM** I require port-medical officer
 My vessel is healthy and I request free pratique . . . Q

LMO PROCEED, s to (Go to)

- Proceeding to—*Am, Is, Are*
- LMS** You are ordered to proceed to

LNK PROCEED, s to sea

- Proceeding to sea—*Am, Is, Are*
- LNL** You should proceed to sea
- LNM** Proceeded to sea—*Has, Have, ing*

LUL RADIO, sRadioing—*Am, Is, Are***LVE** You should use radio**LVH** Can you get into radio touch with vessel or station indicated**LWL RAPID, ly, ity****MJO REQUEST, as that**Requesting, *that*—*Am, Is, Are***MJY** He, She, It, or vessel indicated, requires urgently**MJZ** I require urgently**MQF** It is not safe to fire a rocket**MQH** Is it safe to fire a rocket**SAIL****MTW** SAIL, s (Canvas)**MUO** SAIL, s *at, on* (Depart)**SEA****MXK** SEA, s (Ocean)**MXQ** SEA, s (Wave, s)Sea is smooth enough for you to alight near me *CD***MYJ** Sea is too heavy to use boatsSea or surf is too heavy for landing *HO***SEAMEN, men** *RMB*Able seaman, men *AHX***MYS** Leading seaman, men**MYT** Ordinary seaman, men**SECOND****MZQ** SECOND, ly (2nd)**SEND, RFF****NAY** I have no means of sending**NBG** SEND, s INSending in—*Am, Is, Are***NBI** SEND, s OFFSending off—*Am, Is, Are***NEJ** SHIP (Vessel)**NFG** SHIP, s (Send by ship)Shipping—*Am, Is, Are*

- NFH** Shipped—*Has Have, ing*
NJI On the lee side, of
SIGHT
NJS SIGHT, s, ING
NJX SIGHTED—*Has, Have, ing*
NLG SIGNAL, s
NLO Morse signal, s, ling
NMI I wish to exercise signals with you.
NMJ I wish to signal to vessel, s, *number indicated if necessary*
on bearing indicated from me.
NMM Signal, s, which follow, s will not be found in the Inter-
national Code of Signals, but pertain, s to local con-
ventional signals. Particulars concerning these local
signals should be looked up in the Sailing Directions.
NPH SLACK (Of ropes)
NUH SPACE, s
Space for, to *RLV*
Sufficient space, for, to *RLX*
OCZ STEER, s, *for towards*
Steering, *for, towards*—*Am, Is, Are*
ODA When steering for
OHK STREET, s
OHL STRENGTH of
STRIKE
OIA STRIKE, s (Labour)
Striking—*Is, Are*
OIF Struck—*Has, Have, ing*
OIG STRIKE, s, ING (Run on to)
OIH Struck—*Has Have, ing*
OIY SUBMARINE, s Vessel
Submarines are exercising in this vicinity; you should
navigate with great caution *HP*
OJA SUBMERGE, s
Submerging—*Am, Is, Are*
OJB Submerged—*Has, Have, ing*
OMG SURF
Surf is too heavy for landing *HO*

SURVEY**ONE** Surveyed—*Has, Have, ing***ONF** **SURVEYOR**, s**ONG** Surveyor, s will attend as arranged**ONL** **SURVIVOR**, s *from***ONN** I have number indicated survivors on board**ONR** Have you any survivors on board**ONS** **SUSPECT**, sSuspecting—*Am, Is, Are***ONT** Suspected—*Has, Have, ing***OTB** **TELEGRAPH**, sTelegraphing—*Am, Is, Are***OTC** Engine Room, telegraph, s**OTM** You should telegraph the following message to my agents**OTN** You should telegraph the following message to my owners**OUC** **TELEGRAPHIC****QUE** **TELEPHONE****TEST**, s, *of* *RMQ*Testing—*Am, Is, Are*Tested—*Has, Have, ing* *RMK***THERE**There is *RRA***PBJ** **TO**, *the***PBK** To place indicated**PBP** **TODAY****PBQ** Today at time indicated..**PBR** From today towards**TON**, s, *nage***PBY** Approximate tonnage, *of***PBZ** How many tons**PCC** Ton, s, *nage* deadweight (2240 English lbs.)**PCF** Ton, s, *nage* measurement (Cargo) (40 cubic feet)

TOW**PDY** Tow (Hemp Waste)**PEE** In tow, *of***PKK** **TUESDAY**,¹**PKL** **TUG**, *s*I require a tug to tow me to berth **XW****PLG** **TURBINE**, *s***PLH** Astern turbine, *s*Turbine blade, *s*, *ing* **CBE****PLI** Turbine blading is stripped. I am disabled**PRA** **UNWATCHED****PRB** The following is coded by the International Code of Signals**PRC** **UNWELL****URGENT**, *ly* **RLD****PSZ** **VEER**, *s* (Cable, etc.)Veering—*Am, Is, Are***PTA** I am about to veer my cable**WARN****QAC** **WARN**, *s* (Caution, *s*)Warning—*Am, Is, Are***WATER****QDW** **KEEP**, *s* **WATER UNDER**Keeping water under—*Am, Is, Are***QDX** Kept water under—*Has, Have, ing***QDY** **MAKE**, *s* **WATER** (Leaks)Making water—*Am, Is, Are***QJH** **WEDNESDAY**, *s***QJI** **WEEK**, *s*, *ly***QJJ** Every week**WEIGH****QJO** **WEIGH**, *s* (Anchor)Weighing—*Am, Is, Are*

QMD WHAT**QME** What are you doing**QMF** What are you going to do**QWQ WRECK, s****QWR** A Complete wreck**QWS** Sunken wreck, age**QWT** Total wreck**QXA WRECKAGE****QYL YOU****QZA** You should (must)You were *ROP***DECODE****RAW** According to. By. From**RBF** Right ahead. Dead ahead**RBK** Floating Sea, anchor's. Drogue, s**RCA** Right astern. Dead astern

RFF { Despatch, es
 { Despatching—*Am, Is, Are*
 { Send, s
 { Sending—*Am, Is, Are*

RFG { Despatched—*Has, Have, ing*
 { Sent—*Has, Have, ing*

RIC Into harbour. Into port**RID** Hatch, es. Hatchway, s**RIF** Him. Her. It.**RIG** Himself. Herself. Itself**RIP** Ill, ness, *of*. Sick, ness, *of***RKO** Crude oil. Petroleum**RKU** Owing to. On account of

RKY { Passed—*Has, Have, ing*
 { Spent—*Has, Have, ing*

RLD Pressing. Urgent, *ly*

RLG	For the purpose, <i>of</i> . For
RLV	Room for, to. Space for, to
RLX	{ Sufficient room, <i>for, to</i> Sufficient space, <i>for, to</i>
RMB	Sailor, s. Seaman, men
RMX	Towing hawser, s. Tow
ROC	{ Am I to Do I have to Have I to Must I
ROW	{ Have I been Was I
RPQ	{ I am having I have
RQL	{ Am I having Do I have Have I
RQO	{ Are you having Do you have Have you
RRA	{ There is There are
RVK	Fairway's
RYT	Telegraphic communication
RYU	Telephonic communication
RYV	From. Of. By.
SBP	Outward, ly. Outside, <i>of</i> . Outer.
SCD	Outward. Outboard
SFC	Some time after, wards
SFU	Height, s, <i>of</i>
SFX	Gone, Went, ahead--- <i>Has, Have, ing</i>
SGE	Last year

SGK	Man's Manning— <i>Am, Is, Are</i>
SGR	Ascending. Up.
SGT	Plank, s ing
SGZ	Practicable, <i>for, to, by</i>
SHA	Authority, ies, <i>for, to</i>
SHB	Leave, <i>to, for</i> . Permission, <i>to, for</i>
SIC	Complete, ly
SIK	<i>In</i> critical condition
SIL	Code, s
SIM	Rear. In the rear of
SIQ	Test, s Testing— <i>Am, Is, Are</i>
SIW	As arranged. As agreed
SJS	So that
SJU	Flood, s (Tide) Flooding— <i>Is</i>
SLJ	Disposable. Available, <i>for, to</i>
SNJ	{ Joint, s, <i>of</i> . Union, s, <i>of</i> { Connection, s, <i>of</i>
SOE	{ In charge of (In command of) { Entrusted to, with
SOH	Log (Book) (<i>followed by qualifications</i> ;
SSU	Produce (Agricultural)
SSY	Head on, <i>to</i> (Bow, s on)
SYN	Tme. Weather
TBT	More abaft, stern, <i>of, than</i>
TDI	Night, <i>of</i>
TLZ	{ Apply, ies to { Applying to— <i>Am, Is, Are</i> { Refer, s to { Referring to— <i>Am, Is, Are</i>

GEOGRAPHICAL SECTION.

A A A S	Aberdeen	<i>Scotland</i>
A A F D	Ailsa Craig	<i>Scotland</i>
A A L L	Amazon R.	<i>S. America</i>
A A T C	Arbroath	<i>Scotland</i>
A A T Q	Ardrossan	<i>Scotland</i>
A A Y W	Auckland	<i>New Zealand</i>
A B T L	Birkenhead:—Alfred Dock Entrances	<i>England</i>
A C B L	Brake Lt. V.	<i>England</i>
A C C Y	Bressay I.	<i>Shetlands</i>
A C D U	Brighton	<i>England</i>
A D J B	Burntisland	<i>Scotland</i>
A E A C	Chepstow	<i>Wales</i>
A E E V	{ Clyde Canal Forth and Clyde Canal	<i>Scotland</i>
A E I T	Coningbeg Lt. V.	<i>Ireland</i>
A E P V	Cumraes	<i>Scotland</i>
A E Z M	Donaghadee	<i>Ireland</i>
A F C V	Dundee	<i>Scotland</i>
A F C Z	Dungeness	<i>England</i>
A F D C	Dunkerque	<i>France</i>
A F F E	Eddystone	<i>England</i>
A F N R	Eyemouth	<i>England</i>
A F T V	Firth of Forth	<i>Scotland</i>
A F V H	Fleetwood	<i>England</i>
A F X A	Foreland, North	<i>England</i>
A F Y K	Fort William	<i>Scotland</i>
A G C N	Gabbard Lt. V., Outer	<i>England</i>
A G E C	Galloway, Mull of	<i>Scotland</i>
A G J V	Glasgow	<i>Scotland</i>
A G J X	Glasgow, Port	<i>Scotland</i>
A G M B	Goodwin Lt. V., East	<i>England</i>
A G M C	Goodwin Lt. V., North	<i>England</i>
A G M D	Goodwin Lt. V., South	<i>England</i>

A G M E	Goodwin Sands	..	..	..	..	<i>England</i>
A G M F	Goole	..	..	..	..	<i>England</i>
A G O E	Grangemouth	..	..	..	..	<i>Scotland</i>
A G O V	Gravesend	..	..	..	..	<i>England</i>
A G Q R	Grimsby	..	..	..	..	<i>England</i>
A H I Q	Horn, Cape	..	..	..	..	<i>S. America</i>
A H L E	Hull	..	..	..	..	<i>England</i>
A J J O	Liverpool	..	..	..	..	<i>England</i>
A J M E	London:—India and Millwall Dock System	..	..	..	..	<i>England</i>
A J M F	London:—King George Dock System	..				<i>England</i>
A J M G	London:—London and S. Katherine Dock System	..	..	..	..	<i>England</i>
A J M X	Longships Lt.	..	..	..	..	<i>England</i>
A J M Y	Longstone	..	..	..	..	<i>England</i>
A J P J	Lundy I.	..	..	..	..	<i>England</i>
A K S E	Monte Video:—Cibil Dock			..	..	<i>Uruguay</i>
A L F R	Newarp Lt. V.	..	..	..	..	<i>England</i>
A M I F	Penang	..	..	..	..	<i>Malay Peninsula</i>
A M P M	Plymouth	..	..	..	..	<i>England</i>
A M T T	Port Said	..	..	..	..	<i>Egypt</i>
A N A F	Queenstown	..	..	..	..	<i>Ireland</i>
A N R Q	S. Catherine Pt.	..	..	..	..	<i>Isle of Wight</i>

DISTRESS SIGNALS.

(International Convention for Safety of Life at Sea, Convention for the Regulation of Aerial Navigation.)

When a vessel or aircraft is in distress and requires assistance, the following are the signals to be used or displayed either together or separately:—

IN THE DAYTIME.

- (1) A gun or other explosive signal, fired at intervals of about a minute (for vessels only).
- (2) The International Code Signal NC, signifying: "I am in distress and require immediate assistance."
- (3) A continuous sounding with any fog-signal apparatus; in the case of aircraft, sound apparatus.
- (4) The signal $\overline{\text{SOS}}$ made by Radiotelegraphy, or by any other distance signalling method.
- (5) The distance signal, consisting of a square flag having either above or below it a ball or anything resembling a ball.

For aircraft only:—

- (6) The signal consisting of a succession of white lights projected into the sky at short intervals.
- (7) The International distress call "MAYDAY" (corresponding to the French pronunciation of the expression "m'aider") by means of Radiotelephony.

AT NIGHT.

- (1) A gun or other explosive signal, fired at intervals of about a minute (for vessels only).
- (2) Flames on the vessel (as from a burning tar barrel, oil barrel, etc.) (for vessels only).
- (3) Rockets or shells, throwing stars of any colour or description, fired one at a time, at short intervals (for vessels only).
- (4) A continuous sounding with any fog-signal apparatus; in the case of aircraft, sound apparatus.
- (5) The signal $\overline{\text{SOS}}$ made by Radiotelegraphy, or by any other distance signalling method.

For aircraft only:—

- (6) The signal consisting of a succession of white lights projected into the sky at short intervals.

- (7) The International distress call "MAYDAY" (corresponding to the French pronunciation of the expression "m'aider") by means of Radiotelephony.

NOTE.—The instructions for the use of SOS and MAYDAY are contained in the Radiotelegraph Regulations.

PILOT SIGNALS.

The following signals, when used or displayed together or separately, shall be deemed to be signals for a pilot:—

IN THE DAYTIME.

- (1) The International Code Signal G signifying "I require a pilot."
- (2) The International Code Signal PT signifying "I require a pilot."
- (3) The Pilot Jack hoisted at the fore.

AT NIGHT.

- (1) The pyrotechnic light, commonly known as a blue light, every fifteen minutes.
- (2) A bright white light, flashed or shown at short or frequent intervals just above the bulwarks for about a minute at a time.
- (3) The International Code Signal PT by flashing.

QUARANTINE SIGNALS.

The following signals are to be shown on arrival by vessels requiring or required to show their state of health:—

IN THE DAYTIME.

- Q* flag—*signifying* - - - "My ship is 'Healthy,' and I request free pratique."
- Q* flag over first substitute
(*QQ*)—*signifying* - - - "My ship is 'Suspect,' i.e., I have had cases of infectious diseases more than five days ago, or there has been unusual mortality among the rats on board my ship."
- Q* flag over *L* flag (*QL*)—
signifying - - - "My ship is 'Infected,' i.e., I have had cases of infectious disease less than five days ago."

BY NIGHT.

Red light over a white light—

signifying - - - "I have not received free pratique."

(Only to be exhibited with-
in the precincts of a port.

The lights should not be
more than 6 ft. apart.)

THE PUBLIC HEALTH (SHIPS) REGULATIONS, 1952.

Under the Public Health (Ships) Regulations, 1952, and the Public Health (Ships) (Scotland) Regulations, 1952, published as S.R. & O. No. 1411 and No. 1586 (S.82), respectively, the master of a ship arriving in a district, which has on board, or has had on board within the last four weeks of the current voyage a case or suspected case of infectious disease requiring the attention of a medical officer, shall, whether by day or night, show or give the following signals:—

- (a) the international three-flag signal LIM flown at the mast-head: and
- (b) between sunset and sunrise either:—
 - (i) the signal LIM flashed in the Morse Code by lamp, or
 - (ii) a signal consisting of a red light over a white light, the lights being not more than 6 feet apart.

If the above requirement does not apply the master of a ship, shall if the ship is due to arrive in a district from a foreign port and is not engaged in regular packet-boat or excursion traffic with a port in France, Belgium, or Holland show or give the following signals when the ship comes within the district, whether by day or night:—

- (a) the international flag signal Q flown at the masthead, and
- (b) between sunset and sunrise, either—
 - (i) the signal Q flashed in Morse Code by lamp, or
 - (ii) a signal consisting of a red light over a white light, the lights being not more than 6 feet apart.

TOWING SIGNALS.

To be used only when towing and being towed.

These signals are to be made—

By DAY.—A single flag, which may be exhibited by being held in the hand or by hoisting at the stay or fore shrouds, or at the gaff, according to circumstances.

By NIGHT.—By flashing, care being taken not to confuse other ships

BY THE SHIP TOWING.

- A** Is the towing hawser fast?
- B** Is all ready for towing?
- C** Yes (or Affirmative)
- D** Shorten in the towing hawser
- E** I am altering my course to starboard
- F** Pay out the towing hawser
- G** Cast off the towing hawser
- H** I must cast off the towing hawser
- I** I am altering my course to port
- J** The towing hawser has parted
- K** Shall I continue the present course?
- L** I am stopping my engines
- M** I am keeping away before the sea
- N** No (or Negative)
- O** Man overboard
- P** I must get shelter or anchor as soon as possible
- Q** Shall we anchor at once?
- R** I will go slower
- S** My engines are going astern
- T** I am increasing speed
- U** You are standing into danger
- V** Set sails
- W** I am paying out the towing hawser
- X** Get spare towing hawser ready
- Y** I cannot carry out your order
- Z** I am commencing to tow

BY THE SHIP TOWED.

- A** Towing hawser is fast
- B** All is ready for towing
- C** Yes (or Affirmative)
- D** Shorten in the towing hawser
- E** Steer to starboard
- F** Pay out the towing hawser
- G** Cast off the towing hawser
- H** I must cast off the towing hawser
- I** Steer to port
- J** The towing hawser has parted
- K** Continue the present course
- L** Stop your engines at once
- M** Keep away before the sea
- N** No (or Negative)
- O** Man overboard
- P** Bring me to shelter or to an anchor as soon as possible
- Q** I wish to anchor at once
- R** Go slower
- S** Go astern
- T** Increase speed
- U** You are standing into danger
- V** I will set sails
- W** I am paying out the towing hawser
- X** Spare towing hawser is ready
- Y** I cannot carry out your order
- Z** Commence towing

The meanings of these signals are not in all cases the same as those of the single-letter signals on page 71.

**TABLE SHOWING INTERNATIONAL ALLOCATION OF
INITIAL LETTERS OF SIGNAL LETTERS
CALL SIGNS AND AIRCRAFT MARKINGS.**

Chile..	..	..	..	..	..	..	CAA - CEZ
Canada	..	..	..	..	..	..	CFA - CKZ
Cuba	..	..	..	..	..	..	CLA - CMZ
Morocco	..	..	..	..	..	..	CNA - CNZ
Cuba	..	..	..	..	..	..	COA - COZ
Bolivia	..	..	..	..	..	..	CPA - CPZ
Portuguese Colonies			..	..	..	..	CQA - CRZ
Portugal	..	..	..	..	..	..	CSA - CUZ
Uruguay	..	..	..	..	..	..	CVA - CXZ
Canada	..	..	..	..	..	..	CYA - CZZ
Germany	..	..	..	..	..	..	D
Spain	..	..	..	..	..	..	EAA - EHZ
Ireland	..	..	..	..	..	..	EIA - EJZ
Japan	..	..	..	..	..	..	EKA - EKZ
Republic of Liberia			..	..	..	..	ELA - ELZ
Japan	..	..	..	..	..	..	EMA - EOZ
Iran ..	..	..	..	..	..	..	EPA - EQZ
Japan	..	..	..	..	..	..	ERA - ERZ
Estonia	..	..	..	..	..	..	ESA - ESZ
Ethiopia	..	..	..	..	..	..	ETA - ETZ
Japan	..	..	..	..	..	..	EUA - EYZ
Germany	..	..	..	..	..	..	EZA - EZZ
France, and Colonies and Protectorates						..	F
Great Britain	..	..	..	..	..	..	G
Hungary	..	..	..	..	..	..	HAA - HAZ
Switzerland..	..	..	..	..	..	..	HBA - HBZ
Ecuador	..	..	..	..	..	..	HCA - HDZ
Switzerland..	..	..	..	..	..	..	HEA - HEZ
Poland	..	..	..	..	..	..	HFA - HFZ
Japan	..	..	..	..	..	..	HGA - HGZ
Republic of Hayti			..	..	..	..	HHa - HHZ
Dominican Republic			..	..	..	..	HIA - HIZ
Republic of Colombia			..	..	..	..	HJA - HKZ
Japan	..	..	..	..	..	..	HLA - HMZ
Iraq ..	..	..	..	..	..	..	HNA - HNZ
Republic of Panama			..	..	..	..	HOA - HPZ

Republic of Honduras	..	..	..	..	HQA - HRZ
Siam..	..	..	..	..	HSA - HSZ
Nicaragua	..	..	..	..	HTA - HTZ
Republic of El Salvador	..	..	..	..	HUA - HUZ
Vatican City State..	..	..	..	..	HVA - HVZ
France and Colonies and Protectorates	..	..	..	..	HWA - HYZ
Kingdom of Saudi Arabia	..	..	..	..	HZA - HZZ
Italy and Colonies	..	..	..	..	I
Japan	..	..	..	..	J
United States of America..	..	..	..	..	K
Norway	..	..	..	..	LAA - LNZ
Argentine Republic	..	..	..	..	LOA - LWZ
Luxemburg	..	..	..	..	LXA - LXZ
Lithuania	..	..	..	..	LYA - LYZ
Bulgaria	..	..	..	..	LZA - LZZ
Great Britain	..	..	..	..	M
United States of America..	..	..	..	..	N
Peru..	..	..	..	..	OAA - OCZ
Syria and Lebanon	..	..	..	..	ODA - ODZ
Austria	..	..	..	..	OEA - OEZ
Finland	..	..	..	..	OFA - OJZ
Czechoslovakia	..	..	..	..	OKA - OMZ
Belgium and Colonies	..	..	..	..	ONA - OTZ
Denmark	..	..	..	..	OUA - OZZ
Netherlands	..	..	..	..	PAA - PIZ
Curacao	..	..	..	..	PJA - PJZ
Dutch East Indies	..	..	..	..	PKA - POZ
Brazil	..	..	..	..	PPA - PYZ
Surinam	..	..	..	..	PZA - PZZ
(Abbreviations)	..	..	..	..	Q
Union of Soviet Socialist Republics	..	..	..	..	R
Sweden	..	..	..	..	SAA - SMZ
Poland	..	..	..	..	SNA - SRZ
Egypt	..	..	..	..	SSA - SUZ
Greece	..	..	..	..	SVA - SZZ
Turkey	..	..	..	..	TAA - TCZ
Guatemala	..	..	..	..	TDA - TDZ
Costa Rica	..	..	..	..	TEA - TEZ
Iceland	..	..	..	..	TFA - TFZ
Guatemala	..	..	..	..	TGA - TGZ
France and Colonies and Protectorates	..	..	..	..	THA - THZ

Costa Rica	TIA - TIZ
France and Colonies and Protectorates ..	TJA - TZZ
Union of Soviet Socialist Republics ..	U
Canada	VAA - VGZ
Commonwealth of Australia ..	VHA - VNZ
Newfoundland	VOA - VOZ
British Colonies and Protectorates ..	VPA - VSZ
British India	VTa - VWZ
Canada	VXA - VYZ
Commonwealth of Australia ..	VZA - VZZ
United States of America ..	W
Mexico	XAA - XFZ
China	XGA - XUZ
France and Colonies and Protectorates ..	XVA - XWZ
Portuguese Colonies	XXA - XXZ
Burma	XYA - XZZ
Afghanistan	YAA - YAZ
Dutch East Indies	YBA - YHZ
Iraq	YIA - YIZ
New Hebrides	YJA - YJZ
Union of Soviet Socialist Republics ..	YKA - YKZ
Latvia	YLA - YLZ
Danzig Free City	YMA - YMZ
Nicaragua	YNA - YNZ
Roumania	YOA - YRZ
Republic of El Salvador	YSA - YSZ
Yugoslavia	YTA - YUZ
Venezuela	YVA - YWZ
Union of Soviet Socialist Republics ..	YXA - YZZ
Albania	ZAA - ZAZ
British Colonies and Protectorates ..	ZBA - ZJZ
New Zealand	ZKA - ZMZ
British Colonies and Protectorates ..	ZNA - ZOZ
Paraguay	ZPA - ZPZ
British Colonies and Protectorates ..	ZQA - ZQZ
Union of South Africa	ZRA - ZUZ
Brazil	ZVA - ZZZ

SIGNAL LETTERS.

The following list of signal letters is inserted for use with the exercises given in this book, and is not to be relied upon for signalling at sea.

Name of Vessel	Signal Letters	Country
<i>Baron Forbes</i>	G B M R	G.
<i>British Advocate</i>	G J L M	G.
<i>British Captain</i>	G J R N	G.
<i>British Diplomat</i>	G F R Y	G.
<i>City of Agra</i>	G R B C	G.
<i>City of Calcutta</i>	G C P K	G.
<i>City of Exeter</i>	G Q Z W	G.
<i>City of Kimberley</i>	G L C M	G.
<i>Daylight</i>	W D E J	U.S.A.
<i>Earl Haig</i>	G Q M J	G.
<i>Elmpark</i>	G D M F	G.
<i>Euripides</i>	G M L P	G.
<i>Harvard</i>	W T B Y	U.S.A.
<i>Hilary</i>	G Q V M	G.
<i>Holiday</i>	W F E W	U.S.A.
<i>Loch Leven</i>	G T B Y	G.
<i>Mateba</i>	O T B A	Belg.
<i>Northern Light</i>	K G E G	U.S.A.
<i>Opawa</i>	G J M C	G.
<i>Southern Star</i>	W G E B	U.S.A.

CHAPTER XI.

COMMUNICATION BETWEEN FISHERY CRUISERS AND FISHING VESSELS.

To provide an effective and rapid means of signalling information of an important nature, and of frequent occurrence, between fishery cruisers and fishing vessels in the North Sea and in waters around the British Isles, a code of signals has been drawn up and is in force internationally.

The flags employed in forming the hoists consist of an ensign, yellow flag and blue flag, and various dispositions of these flags form seven two-flag signals and one one-flag signal.

The meaning of a signal in this particular code is governed by the vessel flying it and the different hoists, and their meaning, are shown in the diagrams on pages 134 and 135.

It is to be noted that in one of the hoists two ensigns are used, while another hoist consists of yellow and blue flags. In order, therefore, that advantage can be taken of the code when the necessity arises, owners and skippers should see that their vessels are provided with the required flags.

The following particulars in respect of the flags used in the hoists should be noted.

Ensigns—British fishery cruisers will use the White Ensign.

Foreign fishery cruisers will use their own colours.

Foreign fishing boats will use their National flag.

Yellow Flag—In cases of emergency any three-cornered flag can be used instead of the yellow flag.

Blue Flag—In cases of emergency a spherical object such as a cork fender or basket can be used instead of a blue flag.

The following is the official notice given in the Ministry of Transport Book of Merchant Shipping Notices, Part II. (annual supplement).

The following Code of Signals is in force internationally for communication between Fishery cruisers and Fishing Vessels in the North Sea and in waters around the British Isles.

Attention should be paid to any communication made by a British or Foreign Fishery Cruiser by means of this Code.

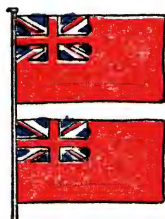
<i>Meaning of Signal when shown by a Fishing Vessel.</i>	<i>Signals for use by British Fishing Vessels See NOTE on p. 136.</i>	<i>Meaning of Corresponding Signal when shown by a Fishery Cruiser. See NOTE on p. 136</i>
1. I wish to communicate with you.	Two <i>red</i> ensigns, one over the other.	I wish to communicate with you.
2. I wish to report a dispute with other fishermen.	A <i>red</i> ensign over a <i>yellow</i> flag.	I request the skipper to come on board; I wish to speak to him.
3. I am in want of provisions.	A <i>red</i> ensign over a <i>blue</i> flag.	Write your communication on a board; I cannot understand you.
4. I want men to help me.	A <i>yellow</i> flag over a <i>red</i> ensign.	I will send a boat to help you.
5. I require medical assistance for a case of internal complaint.	A <i>yellow</i> flag over a <i>blue</i> flag.	I cannot send you a boat, I cannot help you.

MEANING OF SIGNAL

WHEN SHOWN BY A



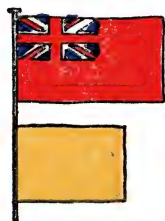
FISHING VESSEL



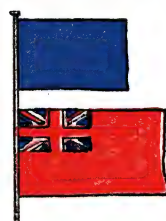
I WISH TO
COMMUNICATE
WITH YOU



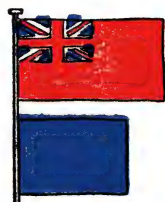
I REQUIRE
MEDICAL
ASSISTANCE
FOR A CASE
OF INTERNAL
COMPLAINT.



I WISH TO
REPORT
A DISPUTE
WITH OTHER
FISHERMEN.



I REQUIRE
MEDICAL
ASSISTANCE
FOR A CASE
OF EXTERNAL
INJURY



I AM IN
WANT OF
PROVISIONS



PLEASE SEND ME
A BOAT; MINE
CANNOT BE USED;
OR
I HAVE NO BOAT.



I WANT
MEN TO
HELP ME



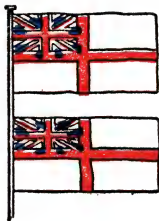
I UNDERSTAND
YOUR SIGNAL.

MEANING OF SIGNAL

WHEN SHOWN BY



FISHERY CRUISER

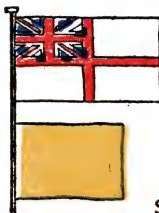


I WISH TO
COMMUNICATE
WITH YOU



I CANNOT SEND
YOU A BOAT ;

I CANNOT
HELP YOU.



I REQUEST
THE SKIPPER
TO COME ON
BOARD :
I WISH TO
SPEAK TO HIM.



BRING THE PATIENT
HERE IN YOUR BOAT.

THE SHIP'S
DOCTOR CAN
THEN EXAMINE
HIM.



WRITE YOUR
COMMUNICATION
ON A BOARD ;
I CANNOT
UNDERSTAND YOU.



KEEP AWAY ;
I CANNOT
MANŒUVRE



I WILL SEND
A BOAT TO
HELP YOU



I UNDERSTAND
YOUR SIGNAL

<i>Meaning of Signal when shown by a Fishing Vessel.</i>	<i>Signals for use by British Fishing Vessels See NOTE below.</i>	<i>Meaning of corresponding Signal when shown by a Fishery Cruiser See NOTE below.</i>
6. I require medical assistance for a case of external injury	A blue flag over a red ensign.	Bring the patient here in your boat, the ship's doctor can then examine him.
7. Please send me a boat; mine cannot be used or, I have no boat.	A blueflag over a yellow flag.	Keep away; I cannot manoeuvre.
8. I understand your signal.	A blue flag.	I understand your signal.

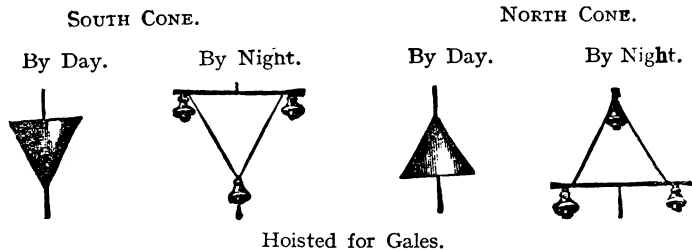
NOTE.—Instead of the *red* ensign, British Fishery Cruisers will use the *white* ensign, Foreign Fishery Cruisers will use their own colours and Foreign Fishing Boats will use their national flag. In cases of emergency any THREE-CORNERED FLAG can be used instead of the YELLOW FLAG, and a SPHERICAL OBJECT, such as a CORK FENDER OR BASKET, can be used instead of the BLUE FLAG; but it will be to the interest of owners and skippers to provide their vessels with the flags shown above.

The NIGHT SIGNAL to be made by British Fishing Vessels requiring the aid of one of H.M. Fishery Cruisers is a single *green* Very's light. This signal should be used only when assistance is urgently needed.

CHAPTER XII.

VISUAL GALE WARNINGS.

British Isles.



SOUTH CONE:—A cone point down is hoisted when the gale is expected from the Southward, or from the east or west if it is expected to shift to the southward.

NORTH CONE:—A cone point up is hoisted when the gale is expected from the Northward, or from the east or west if it is expected to shift to the northward.

THE DAY SIGNAL—

A black cone 3 feet high and 3 feet wide at base.

THE NIGHT SIGNAL—

Three lights in the form of a triangle, 4 feet wide at the base.
This signal is exhibited at a few stations only.

Gale warnings are sent by telegraph to coastguard stations, lighthouses, harbour entrances and other places where visual signals (cones) are exhibited.

A list of storm signal stations on the coasts of the British Isles (excluding Eire) can be found in the No. 1. Weekly Edition of

Admiralty Notices to Mariners. The issue of a warning indicates that an atmospheric disturbance is in existence which will probably cause a gale (force 8 or more by Beaufort scale) in the area to which the warning applies. The cones are lowered when the gale has passed and it is anticipated that there will be a period of not less than 12 hours with winds of less than gale force. The Signal remains hoisted during a lull in the wind if a renewal of the gale is expected.

SUDDEN SHIFTS OF WIND.

A Southerly wind is much more likely to veer quickly to a point North of West than a Northerly wind is to veer to a point South of East; but a gale from the Eastward is more likely to *back* to the *Northward* than to *veer* to the *Southward*.

Accordingly, when in an anchorage or harbour exposed to the North-West, it is important to bear in mind, whenever the South Cone is hoisted, that a gale commencing at the South-West may suddenly shift to the North-Westward.

WIND.

Wind is air in motion. The direction of the wind is designated by the point of the compass from which it blows. All winds are caused directly or indirectly by changes of temperature. If two neighbouring regions become very unequal in temperature from any cause, the air of the warmer region, being lighter than the other will ascend, while the heavier air of the colder region will flow in below to supply its place. The rotation of the earth alone produces no permanent wind, because the atmosphere has the same velocity of rotation as that of the portion of the earth upon which it rests, but the earth's rotation materially modifies the operation of other disturbing causes.

BEAUFORT'S SCALE OF WIND FORCE.

Admiral Beaufort's numbers	Average of velocity in Statute miles per hour	Description of wind
0	0	Calm
1	2	Light air
2	5	Light breeze
3	10	Gentle breeze
4	15	Moderate breeze
5	21	Fresh breeze
6	27	Strong breeze
7	35	Moderate Gale
8	42	Fresh Gale
9	50	Strong Gale
10	59	Whole Gale
11	68	Storm
12	above 75	Hurricane

CHAPTER XIII.

ABOUT FLAGS.—RELATIVE TO THE ORIGIN OF THE UNION FLAG IN ITS PRESENT FORM.—BRITISH NAVAL SIGNALLING FLAGS.—INTERNATIONAL SALUTES.—FLAGS TO BE WORN BY BRITISH MERCHANT SHIPS.—FLAG ETIQUETTE.

The Royal Standard.

The Royal Standard is the personal flag of the Sovereign.

It is only hoisted on board a ship on occasions when the Sovereign is actually present.

Whenever the Sovereign shall go on board any ship of war the Royal Standard shall be hoisted at the main, the flag of the Lord High Admiral at the fore, and the Union Flag at the mizen of such ship; or, if on board a vessel with less than three masts, they shall be hoisted in the most conspicuous parts of her.

When Her Majesty the Queen, or the Prince of Wales, etc., is embarked in any ship or vessel her or his standard shall be hoisted at the main, and it shall be treated with the same respect and saluted in the same manner as the flags denoting the presence of the Sovereign.

Other Royal Standards.

Personal standards are also appropriated for the use of.—

- (i) The Queen.
- (ii) Prince of Wales.
- (iii) Duke of Connaught.
- (iv) Prince Arthur of Connaught.
- (v) Other Members of the Royal Family.

Admiralty and Admiral's Flags.

The Lord High Admiral's or Admiralty Flag is hoisted in ships in which the Lords of the Admiralty are embarked.

Admiral of the Fleet:—The Union Flag is hoisted at the main by an Admiral of the Fleet as his proper flag.

The flag worn by an Admiral:—A white flag with the red St. George's Cross thereon.

The flag worn by a Vice-Admiral:—The same flag as above with one red ball in the upper canton of the flag next the staff.

The flag worn by a Rear-Admiral:—The same flag as above, with one red ball in the upper canton and one in the lower canton next the staff.

The Broad Pendant of a Commodore.

A Commodore of the first class shall wear a white broad pendant with a red St. George's Cross thereon.

A Commodore of the second class:—The same flag as above, with a red ball in the upper canton of the broad pendant next the staff.

Senior Officers and Commission Pendants.

When two or more of H.M. ships are present in a port or roadstead a small broad white pendant with the red St. George's Cross is to be hoisted by the senior officer's ship at the starboard topsail yardarm as a distinguishing flag in addition to the masthead pendant.

All H.M. ships in commission when not bearing a flag or broad pendant are to wear at one masthead a pendant as above.

RELATIVE TO THE ORIGIN OF THE UNION FLAG IN ITS PRESENT FORM.

Union Flag.

The original National Flag of England was the Banner of St. George (argent, a cross gules) to which the Banner of St. Andrew (azure, a saltire argent) was united, in pursuance of a Royal

Proclamation, dated 12th April, 1606,* of which the following is an extract:—

“Whereas some difference has arisen between Our Subjects of South and North Britain, travelling by seas, about the bearing of their flags: for the avoiding of all such contentions hereafter, We have, with the advice of Our Council, ordered that from henceforth, all Our subjects of this Isle and Kingdom of Great Britain, and the members thereof, shall bear in their maintops the Red Cross, commonly called St. George’s Cross, and the White Cross, commonly called the St. Andrew’s Cross, joined together, according to a form made by Our Heralds, and sent by Us to Our Admiral, to be published to our said subjects: and in their foretops Our subjects of South Britain shall wear the Red Cross only, as they were wont; and our subjects of North Britain in their foretops the White Cross only, as they were accustomed.”

Union with Scotland.

On the 17th March, 1706-7, the Lords of the Committee of the Privy Council ordered the Kings of Arms and the Heralds to consider of the alterations to be made in the Ensigns Armorial, and the conjoining the Crosses of St. George and St. Andrew, to be used in all flags, banners, standards and ensigns at sea and on land.

On the 17th April, 1707, the Queen in Council, upon a report

* NOTE.—A Jack is a Flag to be flown only on the “Jack” staff, *i.e.*, a staff on the bowsprit or forepart of the ship. It is believed that the term “Jack” is derived from the abbreviated name of the reigning Sovereign, King James I., under whose direction the flag was constructed and who signed his name “Jacques.” Another derivation may have been from the “Jack” or leather surcoat worn over the hauberk from the 14th to the 17th century inclusive, and which was emblazoned with the St. George’s Cross. Jack is a contraction of “Jazerine,” a corruption of Ghaizerine (It.) a clinker-built boat, the Jack being formed of overlapping plate of metal covered with cloth, velvet or leather.

In 1660 the Duke of York (afterwards James II.) gave an order that the Union Flag should be worn only by the King’s ships.

from the Lords of the Privy Council who were attended by the Kings of Arms and Herald's, with Divers drafts prepared by them, relating to the Ensigns Armorial for the United Kingdom, and conjoining the Crosses of St. George and St. Andrew, pursuant to the Act for Uniting the two Kingdoms, was pleased to approve of the following particulars (*inter alia*) "that the Flags be according to the draft marked C, wherein the Crosses of St. George and St. Andrew are conjoined," as shown in the drawing entered in the College of Arms, with the Orders in Council.

Union with Ireland.

On the 5th November, 1800, the King in Council was pleased to approve the report of a Committee of the Privy Council, that the Union Flag should be altered according to draft marked C, in which the Cross of St. George is conjoined with the Crosses of St. Andrew and St. Patrick, and which is thus described in the proclamation issued on the first day of January, 1801:—

"And that the Union Flag shall be azure, the crosses saltires of St. Andrew and St. Patrick, quarterly per saltire counterchanged argent and gules; the latter fimbriated of the second surmounted by the Cross of St. George of the third fimbriated as the saltire."

As to Red, White and Blue Ensigns.

In 1687, an inquiry was made by Mr. Pepys, Secretary to the Admiralty, as to the flags worn in the reign of Charles I.; and in a manuscript in the British Museum, it is stated that in the Duke of Buckingham's expedition to the Isle of Rhe, in 1627, the Fleet was divided into the Red, Blue, and White Squadrons. The following is an extract from that manuscript:—

"The Duke, now lying at Portsmouth, divided his fleet into Squadrons. Himselfe Admirall and Generall in Chiefe went in ye Triumph bearing the Standard of England in ye maine topp, and Admirall particular of the bloody colours.

"The Earle of Lindsey was Vice Admirall, to the Fleete in the Rainbowe, bearing the King's usual colours in his fore topp, and a Blue Flag in his main topp, and was Admirall of the blew colours.

"The Lord Harvey was Rear Admirall in ye Repulse, bearing the King's usual colours in his mizen and a White Flag in the main topp, and was Admirall of ye Squadron of white colours."

There were two other squadrons, one under the Earl of Danby with the St. George's Flag, the other under Captain Pennington (made Admiral of his Squadron), with the St. Andrew's Cross.

It will be observed that in this instance the blue flag took precedence of the white.

In 1665, in the large fleet commanded by the Duke of York in person, as Lord High Admiral, Prince Rupert was Admiral of the White Squadron, and Sir Thomas Allen of the Blue; and an old drawing shows the three divisions of the fleet wearing ensigns of their respective colours.

But, although the large fleets were thus divided, Admirals of foreign stations continued to wear the Union Flag at the main, fore, or mizen, according to their rank as full, vice, or rear-admiral.

Many instances are mentioned of the inconvenience arising from the use of the Royal Flag by private ships, and in 1660 the Duke of York gave an order that the Union Flag should be worn only by the King's ships.

It is clear that the sole object for which the three colours were formerly used was to distinguish the divisions of the fleet, which often numbered as many as 200 sail.

A variety of ensigns much increases the danger of confusion in action, and it may be observed that, in order to prevent that confusion, Lord Nelson, on going into action at Trafalgar, ordered the whole of his fleet to hoist the White Ensign; and it was under that flag, the "Old Banner of England," but with the Union in the upper corner, that the victory was gained.

Latterly, owing to the comparatively small number of ships forming a fleet, the distinctive colours became of much less importance, while the frequent change of flags on foreign stations was very puzzling to foreigners, often led to mistakes, and in many ways was inconvenient; accordingly, on the 9th July, 1864, by Her Majesty's Order in Council of that date, it was directed that the classification of ships under the denominations of Red, White and Blue Squadrons should be discontinued, and that in future the "White" Ensign should be used by all of H.M. ships of war in commission; the Blue Ensign by British merchant ships commanded by officers of the Royal Naval Reserve, after obtaining permission from the Admiralty; and the Red Ensign by all other ships and vessels belonging to H.M. subjects.

All other ships and vessels which belong to His Majesty's subjects shall wear a Red Ensign free from any badge or distinction mark, with the Union in the upper canton next the staff, except such yachts or vessels as may have warrants from the Admiralty to display other ensigns.

The following are the regulations as to the flags to be worn by any vessel maintained by any colony under the Colonial Defence Act of 1865:—

(a) Any vessel provided and used as a vessel of war shall wear the Blue Ensign with the badge of the colony in the fly thereof, and a Blue Pendant.

(b) All vessels belonging to or permanently in the service of the colonies, but not commissioned as vessels of war under the Act, shall wear a similar Blue Ensign but no Pendant.

Ships and vessels employed in the service of any public office shall carry a Blue Ensign, and a small Blue Flag with a Union described in a canton at the upper corner thereof next to the staff, as a Jack: but in the centre of the fly of such Ensign and Jack, that is in the centre of that part between the Union and

the end of the flag, shall be inserted the badge of the office to which they belong.

Hired transports are to wear the Blue Ensign with the Yellow Admiralty anchor in the fly; and when such vessels are in charge of commissioned officers of the Royal Navy, they are, in addition, to carry Blue Pennants with the Admiralty badge in the upper part next to the mast.

Hired vessels employed in the Surveying Service, when commanded by officers in Her Majesty's Navy, are to wear the Blue Ensign and Pendant.

BRITISH NAVAL SIGNALLING FLAGS.

Measurement of Ensigns, Standards, etc.

The size of British Ensigns, Standards, and Union Flags is commonly expressed in terms of "breadths." This measurement, which is 9 inches, was originally that of the width of a cloth of bunting, and it is still used for describing the size of any of the above flags, although bunting is now supplied in widths of 18 ins.

In the Union Flags, Standards, and the White, Blue, and Red Ensigns the length is twice the breadth. In the Admirals' Flags the length is $1\frac{1}{2}$ times the breadth.

When the size of one of the above flags is spoken of as, say, "16 breadths," it denotes that it is 16×9 inches (or 12 feet) broad and, as it is twice as long as it is broad, 24 feet long.

Each cloth of bunting (18 inches in width) has a few thicker threads worked not only into its edges, and also at every 6 inches of its warp*, and this mark shows the bunting to be of Government make.

Hoisting and Hauling down the Ensign.

1. H.M. ships when at anchor in home ports and roads shall hoist their ensigns at 8 o'clock in the morning from 25th March to

* NOTE.—The warp threads are those which are longitudinal to the cloth of bunting; the weft are those which are woven by the shuttle at right angles between them.

20th September inclusive, and at 9 o'clock from 21st September to 24th March inclusive; but when abroad, at 8 or 9 o'clock, as the Commander-in-Chief shall direct, and they shall be kept flying, if the weather permit, or the Senior Officer present see no objection thereto, throughout the day until sunset, when they are to be hauled down.

2. Whenever a ship shall come to anchor or get under way, if there be sufficient light for the ensign to be seen, it is to be hoisted, though earlier or later than aforesaid; also on her passing, meeting, joining, or parting from any other of H.M. ships and also, unless there should be sufficient reason to the contrary, on her falling in with any other ship or ships at sea, or when in sight of and near the land, and especially when passing or approaching forts, castles, batteries, lighthouses or towns.

INTERNATIONAL SALUTES.

Naval.

1. The Captain of a ship or the Senior Officer of more than one ship on anchoring at a foreign port where there is a fort or battery, or where a man-of-war of the nation may be lying, shall salute the National flag with 21 guns on being satisfied that the salute will be returned.

2. If one or more British ships of war meet a foreign ship of war bearing the flag of a Flag Officer senior in rank to the Senior Officer in command of H.M. ship or ships, such Senior Officer shall salute the foreign Flag Officer with the number of guns as laid down if in port after the proper national salutes shall have been interchanged.

3. A list of saluting stations is supplied to each ship.

4. The following regulations, in which the Maritime Powers generally have concurred, are observed in reference to the interchange of salutes between H.M. ships and foreign ships of war

which bear the flag of a Flag Officer or the broad pendant of a Commodore, or a Captain commanding a Squadron or division:—

	Guns
The flag of an Admiral of the Fleet or Flag Officer who ranks with a Field Marshal is to be saluted with	19
The flag of an Admiral - - - - -	17
The flag of a Vice-Admiral - - - - -	15
The flag of a Rear-Admiral - - - - -	13
The broad pendant of a Commodore or a Capitaine de Vaisseau Commandant de Division in the French Navy - -	11

As the rank of a full Admiral does not exist in the French Navy, Vice-Admirals of that nation whose flags may be hoisted at the main are to be regarded as Full Admirals, and are to be saluted with 17 guns.

5. Salutes to be returned:—

The following regulations are observed in regard to return salutes to and from H.M. ships and forts or batteries:—

- (a) All salutes from foreign ships of war, either to H.M. ships or forts, are to be returned, gun for gun. Should there be no fort or battery from which such salutes can be returned, the Senior Naval Officer present will return them gun for gun.
- (b) Salutes to the National Flag, on anchoring at a foreign port, are returned gun for gun.
- (c) Salutes to the flags of foreign Admirals and Commodores, when met with at sea, or in harbour, are returned gun for gun.

6. Salutes not to be returned:—

- (a) Royal Salutes.
- (b) To H.M. subjects (except salutes to superior naval authorities).
- (c) To Royal personages, Chiefs of States, or members of Royal families, whether on arrival at, or departure from a port, or upon visiting ships of war.

- (d) To diplomatic, naval, military, or consular authorities, or to governors or officers administering a government, whether on arrival at, or departure from, a port, or when visiting ships of war.
- (e) To foreigners of high distinction on visiting ships of war.
- (f) Upon occasions of national festivals or anniversaries.

FLAGS TO BE FLOWN BY BRITISH MERCHANT SHIPS.

1. THE RED ENSIGN.

Sections 73 and 74 of the Merchant Shipping Act, 1894, provide as follows:

73.—(1) The red ensign usually worn by Merchant Ships, without any defacement or modification whatsoever, is hereby declared to be the proper national colours for all ships and boats belonging to any British subject except in the case of Her Majesty's ships or boats, or in the case of any other ship or boat for the time being allowed to wear any other national colours in pursuance of a warrant from Her Majesty or from the Admiralty.

(2) If any distinctive national colours, except such red ensign, or except the Union Jack with a white border, or if any colours usually worn by Her Majesty's ships or resembling those of Her Majesty, or if the pendant usually carried by Her Majesty's ships, or any pendant resembling that pendant, are or is hoisted on board any ship or boat belonging to any British subject without warrant from Her Majesty or from the Admiralty, the master of the ship or boat or the owner thereof, if on board the same, and every other person hoisting the colours or pendant, shall for each offence incur a fine not exceeding five hundred pounds.

(3) Any commissioned officer on full pay in the military or naval service of Her Majesty, or any officer of Customs in Her Majesty's dominions, or any British Consular officer, may board any ship or boat on which any colours or pendant are hoisted

contrary to this Act, and seize and take away the colours or pendant, and the colours or pendant shall be forfeited to Her Majesty.

(4) A fine under this Section may be removed with costs in the High Court in England or Ireland, or in the Court of Session in Scotland, or in any Colonial Court of Admiralty or Vice-Admiralty Court within Her Majesty's dominions.

(5) Any offence mentioned in this Section may also be prosecuted, and the fine for it recovered, summarily, provided that:

- (a) where any such offence is prosecuted summarily, the Court imposing the fine shall not impose a higher fine than one hundred pounds; and
- (b) nothing in this Section shall authorise the imposition of more than one fine in respect of the same offence.

74.—(1) A ship belonging to a British subject shall hoist the proper national colours—

- (a) on a signal being made to her by one of Her Majesty's ships (including any vessel under the command of an officer of Her Majesty's Navy on full pay); and
- (b) on entering or leaving any foreign port; and
- (c) if of fifty tons gross tonnage or upwards, on entering or leaving any British port.

(2) If default is made on board any such ship in complying with this Section, the master of the ship shall for each offence be liable to a fine not exceeding one hundred pounds.

(3) This Section shall not apply to a fishing boat duly entered in the fishing boat register, and lettered and numbered as required by the Fourth Part of this Act.

2. THE BLUE ENSIGN.

(1) British Merchant Ships will be allowed to fly the Blue Ensign when the following conditions are fulfilled:—

- (a) The officer commanding the ship must be an officer on

the Retired or Emergency List of the Royal Navy, or of the Royal Australian Navy, or an officer of the Royal Naval Reserve, of the Royal Australian Naval Reserve (Seagoing), of the Royal Canadian Naval Reserve, or of the Royal Naval Reserve (New Zealand Division).

- (b) The crew must include (in addition to the commanding officer) officers of the Royal Naval Reserve, of the Royal Australian Naval Reserve (Seagoing), of the Royal Canadian Naval Reserve, or of the Royal Naval Reserve (New Zealand Division), and men of the Royal Naval Reserve, of the Royal Australian Naval Reserve, of the Royal Canadian Naval Reserve, or of the New Zealand Royal Naval Reserve, Class B, to the number specified from time to time by the Admiralty, but officers on the Retired or Emergency List of the Royal Navy, or of the Royal Australian Navy, men belonging to the Royal Fleet Reserve, to the Royal Australian Fleet Reserve, or to the New Zealand Royal Naval Reserve, Class A, Royal Naval pensioners and men holding Naval Reserve deferred pension certificates may be included in the number specified.
- (c) Before hoisting the Blue Ensign the officer commanding the ship must be provided with an Admiralty warrant.
- (d) The fact that the commanding officer holds a warrant authorising him to hoist the Blue Ensign must be noted on the Ship's Articles of Agreement.

(2) Commanding officers failing to fulfil the above conditions, unless such failure be due to death or other circumstances over which they have no control, will no longer be entitled to hoist the Blue Ensign.

(3) British Merchant Ships in receipt of Admiralty subvention

will be allowed to fly the Blue Ensign, under Admiralty warrant.

(4) In order to ascertain that the above conditions are strictly carried out, the Captain of one of Her Majesty's ships meeting a ship carrying the Blue Ensign may send on board an officer not below the rank of Lieutenant, at any convenient opportunity, but this restriction as to the rank of the Boarding Officer is in no way to limit or otherwise affect the Authority or the duties of Naval officers either under the Merchant Shipping Acts or in time of war.

(5) Applications for permission to hoist the Blue Ensign on board British Merchant Ships in receipt of Admiralty subvention should be made direct to the Admiralty by the owners; for other Merchant Ships the applications should be made through the Registrar-General of Seamen.

Officers of the Naval Reserve who are desirous of obtaining the Admiralty warrant to fly the Blue Ensign on board Merchant Ships should apply to the Registrar of Naval Reserve at any Mercantile Marine Office in the United Kingdom for a Form of Application (R.V. 40), which, when complete, will be forwarded to the Registrar-General of Seamen.

FLAG ETIQUETTE.

Law of Flags.

The only National Ensign the use of which is free to all is the red. If, however, it has a special device it comes, like the White and Blue Ensigns, under the Admiralty control. The Red, White and Blue Ensign with special device may only be flown by those holding a personal Admiralty warrant. The use of the White Ensign is confined to the ships of the Royal Navy, Royal yachts, and yachts holding Admiralty warrants through the Royal Yacht Squadron.

Ensign (Wearing of).

The National Flag, *i.e.*, ensign should be worn as follows:—

Steam vessels and other power craft.

At anchor—At the ensign staff on the taffrail.

Under way—At the ensign staff on the taffrail, or at the peak of the main gaff.

Sailing craft.

At anchor—At the ensign staff on the taffrail.

Under way—At the after peak.

The ensign should never be made up and broken out; moreover, it should be hoisted close up and not as is sometimes seen neither close up nor half mast with halyards slack.

When to fly—A ship belonging to a British subject shall hoist the proper national colours—

- (a) On a signal being made to her by one of Her Majesty's ships (including any vessel under the command of an officer of Her Majesty's Navy on full pay); and
- (b) On entering or leaving any foreign port; and
- (c) If of 50 tons gross tonnage or upwards, on entering or leaving any British port.

When lying in port at home or abroad colours should be hoisted at 8 a.m. from 25th March to 20th September inclusive, and at 9 a.m. from 21st September to 24th March inclusive, and lowered at sunset. The time of sunset may be obtained from the Azimuth Tables.

When a vessel comes to anchor, or gets under way, before or after colours, she should fly her ensign providing there is sufficient light for it to be distinguished. Entering port under such circumstances, the colours should be lowered immediately after anchoring.

Dipping of Ensign.

The dipping of the ensign is a salute and is carried out as follows:—

Slowly lower the ensign from the “close up” to the “dip,” keeping the halyards taut, and when the salute has been acknowledged slowly hoist to the “close up.”

When passing, or if at anchor being passed by Royal yachts or men-of-war, ensigns should be dipped.

Position of Royal Standard when hoisted on Merchant Ships.

In the event of a visit by Her Majesty the Queen to a merchant ship, the appropriate place for the Royal Standard to be worn is at the mainmast head.

Dressing Ship.

On ceremonial occasions, it is sometimes required to dress ship. This is carried out by hoisting masthead flags or running flags “rainbow fashion.” In the latter case, on board a two-masted vessel, the line should run from stem to foremast head, thence to mainmast head and down to taffrail. On a single-masted vessel from stem to mainmast, thence to taffrail.

Particular attention is to be devoted to the arrangement of flags so that when flying they will have a symmetrical appearance. The flags should be evenly spaced and the same number of square flags between pendants. Since there are only two burgees in the International Code the best position for them is at each end of the line. The appearance of a string of flags is often completely spoilt by the line sagging in the middle. It is hard to avoid such an occurrence when flags are merely toggled together, but may be successfully overcome by fitting dressing lines. These lines may be made of light wire or small manila. The flags are seized to the lines, the middle of the hoist being secured to the line with a whipping of sailmaker's twine. When seizing the flags to the line the utmost care is to be taken to ensure the flags are evenly spaced;

holidays between flags spoil the effect. If manila rope is used, be sure the rope is thoroughly stretched before setting up otherwise sagging is sure to occur.

Where a jib-boom is fitted, the effect is enhanced by running the dressing line from the jib-boom end and suspending flags from the jib-boom end and taffrail to the waterline. Affix weights to the ends of such lines to keep them as rigid as possible.

The order of the flags may be left to the discretion of the responsible officer. The ensign is carried in its proper place. No ensigns of any kind are to be used in dressing lines.

The flag to fly at the masthead depends upon the nature of the occasion for dressing ship. For instance, on the Queen's birthday fly the national ensign. When abroad and it is required to dress ship, in a single-masted vessel, masthead the ensign of the country visited, wearing, of course, the British ensign aft. In the case of a two-masted vessel fly at the foremast head the ensign of the country visited and masthead at the main the owner's House Flag.

A vessel should not be dressed "rainbow fashion" when under way, but, instead, fly masthead ensign only.

Should you find on entering port all vessels at anchor dressed, endeavour to have your dressing lines all ready to hoist as soon as the anchor is let go.

Mourning.

On days of national mourning, the ensign should be flown at half-mast. If abroad and the same circumstances prevail, out of respect the same procedure should be adopted.

To half-mast a flag, if not previously hoisted, it should be first hoisted "close-up," then slowly lowered to half-mast. To lower a flag from half-mast, hoist to the "close up," then lower slowly.

If it is necessary to salute, or return a salute, when the ensign is at half-mast, first hoist to the "close up", then "dip" in the usual way. Keep the ensign at the "close up" for a moment before lowering to half-mast.

INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1948.

PART A—PRELIMINARY AND DEFINITIONS.

Rule 1.

(a) These Rules shall be followed by all vessels and seaplanes upon the high seas and in all waters connected therewith navigable by seagoing vessels, except as provided in Rule 30. Where, as a result of their special construction, it is not possible for seaplanes to comply fully with the provisions of Rules specifying the carrying of lights and shapes, these provisions shall be followed as closely as circumstances permit.

(b) The Rules concerning lights shall be complied with in all weathers from sunset to sunrise, and during such times no other lights shall be exhibited, except such lights as cannot be mistaken for the prescribed lights or impair their visibility or distinctive character, or interfere with the keeping of a proper look-out.

(c) In the following Rules, except where the context otherwise requires:—

- (i) the word “vessel” includes every description of water craft, other than a seaplane on the water, used or capable of being used as a means of transportation on water;
- (ii) the word “seaplane” includes a flying boat and any other aircraft designed to manoeuvre on the water;
- (iii) the term “power-driven vessel” means any vessel propelled by machinery;
- (iv) every power-driven vessel which is under sail and not under power is to be considered a sailing vessel. and

- every vessel under power, whether under sail or not, is to be considered a power-driven vessel;
- (v) a vessel or seaplane on the water is "under way" when she is not at anchor, or made fast to the shore, or aground;
 - (vi) the term "height above the hull" means height above the uppermost continuous deck;
 - (vii) the length and breadth of a vessel shall be deemed to be the length and breadth appearing in her certificate of registry;
 - (viii) the length and span of a seaplane shall be its maximum length and span as shown in its certificate of airworthiness, or as determined by measurement in the absence of such certificate;
 - (ix) the word "visible," when applied to lights, means visible on a dark night with a clear atmosphere;
 - (x) the term "short blast" means a blast of about one second's duration;
 - (xi) the term "prolonged blast" means a blast of from four to six seconds' duration;
 - (xii) the word "whistle" means whistle or siren;
 - (xiii) the word "tons" means gross tons.

PART B.—LIGHTS AND SHAPES.

Rule 2.

- (a) A power-driven vessel when under way shall carry:—
 - (i) On or in front of the foremast, or if a vessel without a foremast then in the forepart of the vessel, a bright white light so constructed as to show an unbroken light over an arc of the horizon of 20 points of the compass (225 degrees), so fixed as to show the light 10

points ($112\frac{1}{2}$ degrees) on each side of the vessel, that is, from right ahead to 2 points ($22\frac{1}{2}$ degrees) abaft the beam on either side, and of such a character as to be visible at a distance of at least 5 miles.

- (ii) Either forward of or abaft the white light mentioned in sub-section (i) a second white light similar in construction and character to that light. Vessels of less than 150 feet in length, and vessels engaged in towing, shall not be required to carry this second white light but may do so.
- (iii) These two white lights shall be so placed in a line with and over the keel that one shall be at least 15 feet higher than the other and in such a position that the lower light shall be forward of the upper one. The horizontal distance between the two white lights shall be at least three times the vertical distance. The lower of these two white lights or, if only one is carried, then that light, shall be placed at a height above the hull of not less than 20 feet, and, if the breadth of the vessel exceeds 20 feet, then at a height above the hull not less than such breadth, so however that the light need not be placed at a greater height above the hull than 40 feet. In all circumstances the light or lights, as the case may be, shall be so placed as to be clear of and above all other lights and obstructing superstructures.
- (iv) On the starboard side a green light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass ($112\frac{1}{2}$ degrees), so fixed as to show the light from right ahead to 2 points ($22\frac{1}{2}$ degrees) abaft the beam on the starboard side, and of such a character as to be visible at a distance of at least 2 miles.

- (v) On the port side a red light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass ($112\frac{1}{2}$ degrees), so fixed as to show the light from right ahead to 2 points ($22\frac{1}{2}$ degrees) abaft the beam on the port side, and of such a character as to be visible at a distance of at least 2 miles.
 - (vi) The said green and red sidelights shall be fitted with inboard screens projecting at least 3 feet forward from the light, so as to prevent these lights from being seen across the bows.
- (b) A seaplane under way on the water shall carry:—
- (i) In the forepart amidships where it can best be seen a bright white light, so constructed as to show an unbroken light over an arc of the horizon of 220 degrees of the compass, so fixed as to show the light 110 degrees on each side of the seaplane, namely, from right ahead to 20 degrees abaft the beam on either side, and of such a character as to be visible at a distance of at least 3 miles.
 - (ii) On the right or starboard wing tip a green light, so constructed as to show an unbroken light over an arc of the horizon of 110 degrees of the compass, so fixed as to show the light from right ahead to 20 degrees abaft the beam on the starboard side, and of such a character as to be visible at a distance of at least 2 miles.
 - (iii) On the left or port wing tip a red light, so constructed as to show an unbroken light over an arc of the horizon of 110 degrees of the compass, so fixed as to show the light from right ahead to 20 degrees abaft the beam on the port side, and of such a character as to be visible at a distance of at least 2 miles.

Rule 3.

(a) A power-driven vessel when towing or pushing another vessel or seaplane shall, in addition to her sidelights, carry two bright white lights in a vertical line one over the other, not less than 6 feet apart, and when towing more than one vessel shall carry an additional bright white light 6 feet above or below such lights, if the length of the tow, measuring from the stern of the towing vessel to the stern of the last vessel or seaplane towed, exceeds 600 feet. Each of these lights shall be of the same construction and character and one of them shall be carried in the same position as the white light mentioned in Rule 2 (a) (i), except the additional light, which shall be carried at a height of not less than 14 feet above the hull. In a vessel with a single mast, such lights may be carried on the mast.

(b) The towing vessel shall also show either the stern light specified in Rule 10 or in lieu of that light a small white light abaft the funnel or aftermast for the tow to steer by, but such light shall not be visible forward of the beam. The carriage of the white light specified in Rule 2 (a) (ii) is optional.

(c) A seaplane on the water, when towing one or more seaplanes or vessels, shall carry the lights prescribed in Rule 2 (b) (i), (ii) and (iii); and, in addition, she shall carry a second white light of the same construction and character as the white light mentioned in Rule 2 (b) (i), and in a vertical line at least 6 feet above or below such light.

Rule 4.

(a) A vessel which is not under command shall carry, where they can best be seen, and, if a power-driven vessel, in lieu of the lights required by Rule 2 (a) (i) and (ii), two red lights in a vertical line one over the other not less than 6 feet apart, and of such a character as to be visible all round the horizon at a distance of at least 2 miles. By day, she shall carry in a vertical line one over the

other not less than 6 feet apart, where they can best be seen, two black balls or shapes each not less than 2 feet in diameter.

(b) A seaplane on the water which is not under command may carry, where they can best be seen, two red lights in a vertical line, one over the other, not less than 3 feet apart, and of such a character as to be visible all round the horizon at a distance of at least 2 miles, and may by day carry in a vertical line one over the other not less than 3 feet apart, where they can best be seen, two black balls or shapes, each not less than 2 feet in diameter.

(c) A vessel engaged in laying or in picking up a submarine cable or navigation mark, or a vessel engaged in surveying or underwater operations when from the nature of her work she is unable to get out of the way of approaching vessels, shall carry, in lieu of the lights specified in Rule 2 (a) (i) and (ii), three lights in a vertical line one over the other not less than 6 feet apart. The highest and lowest of these lights shall be red, and the middle light shall be white, and they shall be of such a character as to be visible all round the horizon at a distance of at least 2 miles. By day, she shall carry in a vertical line one over the other not less than 6 feet apart, where they can best be seen, three shapes each not less than 2 feet in diameter, of which the highest and lowest shall be globular in shape and red in colour, and the middle one diamond in shape and white.

(d) The vessels and seaplanes referred to in this Rule, when not making way through the water, shall not carry the coloured sidelights, but when making way they shall carry them.

(e) The lights and shapes required to be shown by this Rule are to be taken by other vessels and seaplanes as signals that the vessel or seaplane showing them is not under command and cannot therefore get out of the way.

(f) These signals are not signals of vessels in distress and requiring assistance. Such signals are contained in Rule 31.

Rule 5.

(a) A sailing vessel under way and any vessel or seaplane being towed shall carry the same lights as are prescribed by Rule 2 for a power-driven vessel or a seaplane under way, respectively, with the exception of the white lights specified therein, which they shall never carry. They shall also carry stern lights as specified in Rule 10, provided that vessels towed, except the last vessel of a tow, may carry, in lieu of such stern light, a small white light as specified in Rule 3 (b).

(b) A vessel being pushed ahead shall carry, at the forward end, on the starboard side a green light and on the port side a red light, which shall have the same characteristics as the lights described in Rule 2 (a) (iv) and (v) and shall be screened as provided in Rule 2 (a) (vi), provided that any number of vessels pushed ahead in a group shall be lighted as one vessel.

Rule 6.

(a) In small vessels, when it is not possible on account of bad weather or other sufficient cause to fix the green and red sidelights, these lights shall be kept at hand lighted and ready for immediate use, and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side nor the red light on the starboard side, nor if practicable, more than 2 points ($22\frac{1}{2}$ degrees) abaft the beam on their respective sides.

(b) To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the colour of the lights they respectively contain, and shall be provided with proper screens.

Rule 7.

Power-driven vessels of less than 40 tons, vessels under oars or sails of less than 20 tons, and rowing boats, when under way

shall not be required to carry the lights mentioned in Rule 2, but if they do not carry them they shall be provided with the following lights:—

(a) Power-driven vessels of less than 40 tons, except as provided in section (b), shall carry:—

- (i) In the forepart of the vessel, where it can best be seen, and at a height above the gunwale of not less than 9 feet, a bright white light constructed and fixed as prescribed in Rule 2 (a) (i) and of such a character as to be visible at a distance of at least 3 miles.
- (ii) Green and red sidelights constructed and fixed as prescribed in Rule 2 (a) (iv) and (v), and of such a character as to be visible at a distance of at least 1 mile, or a combined lantern showing a green light and a red light from right ahead to 2 points ($22\frac{1}{2}$ degrees) abaft the beam on their respective sides. Such lantern shall be carried not less than 3 feet below the white light.

(b) Small power-driven boats, such as are carried by seagoing vessels, may carry the white light at a less height than 9 feet above the gunwale, but it shall be carried above the sidelights or the combined lantern mentioned in sub-section (a) (ii).

(c) Vessels of less than 20 tons, under oars or sails, except as provided in section (d), shall, if they do not carry the sidelights, carry where it can best be seen a lantern showing a green light on one side and a red light on the other, of such a character as to be visible at a distance of at least 1 mile, and so fixed that the green light shall not be seen on the port side, nor the red light on the starboard side. Where it is not possible to fix this light, it shall be kept ready for immediate use and shall be exhibited in sufficient time to prevent collision and so that the green light shall not be seen on the port side nor the red light on the starboard side.

(d) Small rowing boats, whether under oars or sail, shall only be required to have ready at hand an electric torch or a lighted lantern showing a white light, which shall be exhibited in sufficient time to prevent collision.

(e) The vessels and boats referred to in this Rule shall not be required to carry the lights or shapes prescribed in Rules 4 (a) and 11 (e).

Rule 8.

(a) (i) Sailing pilot-vessels, when engaged on their station on pilotage duty and not at anchor, shall not show the lights prescribed for other vessels, but shall carry a white light at the masthead visible all round the horizon at a distance of at least 3 miles, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 10 minutes.

(ii) On the near approach of or to other vessels they shall have their sidelights lighted ready for use and shall flash or show them at short intervals, to indicate the direction in which they are heading, but the green light shall not be shown on the port side, nor the red light on the starboard side.

(iii) A sailing pilot-vessel of such a class as to be obliged to go alongside of a vessel to put a pilot on board may show the white light instead of carrying it at the masthead and may, instead of the sidelights above mentioned, have at hand ready for use a lantern with a green glass on the one side and a red glass on the other to be used as prescribed above.

(b) A power-driven pilot-vessel when engaged on her station on pilotage duty and not at anchor shall, in addition to the lights and flares required for sailing pilot-vessels, carry at a distance of 8 feet below her white masthead light a red light visible all round the horizon at a distance of at least 3 miles, and also the sidelights required to be carried by vessels when under way. A bright intermittent all round white light may be used in place of a flare.

(c) All pilot-vessels, when engaged on their stations on pilotage duty and at anchor, shall carry the lights and show the flares prescribed in sections (a) and (b), except that the sidelights shall not be shown. They shall also carry the anchor light or lights prescribed in Rule 11.

(d) All pilot-vessels, whether at anchor or not at anchor, shall, when not engaged on their stations on pilotage duty, carry the same lights as other vessels of their class and tonnage.

Rule 9.

(a) Fishing vessels when not fishing shall show the lights or shapes prescribed for similar vessels of their tonnage. When fishing they shall show only the lights or shapes prescribed by this Rule, which lights or shapes, except as otherwise provided, shall be visible at a distance of at least 2 miles.

(b) Vessels fishing with trolling (towing) lines, shall show only the lights prescribed for a power-driven or sailing vessel under way as may be appropriate.

(c) Vessels fishing with nets or lines, except trolling (towing) lines, extending from the vessel not more than 500 feet horizontally into the seaway shall show, where it can best be seen, one all round white light and in addition, on approaching or being approached by another vessel, shall show a second white light at least 6 feet below the first light and at a horizontal distance of at least 10 feet away from it (6 feet in small open boats) in the direction in which the outlying gear is attached. By day such vessels shall indicate their occupation by displaying a basket where it can best be seen; and if they have their gear out while at anchor, they shall, on the approach of other vessels, show the same signal in the direction from the anchor ball towards the net or gear.

(d) Vessels fishing with nets or lines, except trolling (towing) lines, extending from the vessel more than 500 feet horizontally into the seaway shall show, where they can best be seen, three

white lights at least 3 feet apart in a vertical triangle visible all round the horizon. When making way through the water, such vessels shall show the proper coloured sidelights but when not making way they shall not show them. By day they shall show a basket in the forepart of the vessel as near the stem as possible not less than 10 feet above the rail; and, in addition, where it can best be seen, one black conical shape, apex upwards. If they have their gear out while at anchor they shall, on the approach of other vessels, show the basket in the direction from the anchor ball towards the net or gear.

(e) Vessels when engaged in trawling, by which is meant the dragging of a dredge net or other apparatus along or near the bottom of the sea, and not at anchor:—

- (i) If power-driven vessels, shall carry in the same position as the white light mentioned in Rule 2 (a) (i) a tri-coloured lantern, so constructed and fixed as to show a white light from right ahead to 2 points ($22\frac{1}{2}$ degrees) on each bow, and a green light and a red light over an arc of the horizon from 2 points ($22\frac{1}{2}$ degrees) on each bow to 2 points ($22\frac{1}{2}$ degrees) abaft the beam on the starboard and port sides, respectively; and not less than 6 nor more than 12 feet below the tri-coloured lantern a white light in a lantern, so constructed as to show a clear, uniform, and unbroken light all round the horizon. They shall also show the stern light specified in Rule 10 (a).
- (ii) If sailing vessels, shall carry a white light in a lantern so constructed as to show a clear, uniform, and unbroken light all round the horizon, and shall also, on the approach of or to other vessels show, where it can best be seen, a white flare-up light in sufficient time to prevent collision.

(iii) By day, each of the foregoing vessels shall show, where it can best be seen, a basket.

(f) In addition to the lights which they are by this Rule required to show vessels fishing may, if necessary in order to attract attention of approaching vessels, show a flare-up light. They may also use working lights.

(g) Every vessel fishing, when at anchor, shall show the lights or shape specified in Rule 11 (a), (b) or (c); and shall, on the approach of another vessel or vessels, show an additional white light at least 6 feet below the forward anchor light and at a horizontal distance of at least 10 feet away from it in the direction of the outlying gear.

(h) If a vessel when fishing becomes fast by her gear to a rock or other obstruction she shall in daytime haul down the basket required by sections (c), (d) or (e) and show the signal specified in Rule 11 (c). By night she shall show the light or lights specified in Rule 11 (a) or (b). In fog, mist, falling snow, heavy rainstorms or any other condition similarly restricting visibility, whether by day or by night, she shall sound the signal prescribed by Rule 15 (c) (v), which signal shall also be used, on the near approach of another vessel, in good visibility.

NOTE.—*For fog signals for fishing vessels, see Rule 15 (c) (ix)*

Rule 10.

(a) A vessel when under way shall carry at her stern a white light, so constructed that it shall show an unbroken light over an arc of the horizon of 12 points of the compass (135 degrees), so fixed as to show the light 6 points ($67\frac{1}{2}$ degrees) from right aft on each side of the vessel, and of such a character as to be visible at a distance of at least 2 miles. Such light shall be carried as nearly as practicable on the same level as the sidelights.

NOTE.—*For vessels engaged in towing or being towed, see Rules 3 (b) and 5.*

(b) In a small vessel, if it is not possible on account of bad weather or other sufficient cause for this light to be fixed, an electric torch or a lighted lantern shall be kept at hand ready for use and shall, on the approach of an overtaking vessel, be shown in sufficient time to prevent collision.

(c) A seaplane on the water when under way shall carry on her tail a white light, so constructed as to show an unbroken light over an arc of the horizon of 140 degrees of the compass, so fixed as to show the light 70 degrees from right aft on each side of the seaplane, and of such a character as to be visible at a distance of at least 2 miles.

Rule 11.

(a) A vessel under 150 feet in length, when at anchor, shall carry in the forepart of the vessel, where it can best be seen, a white light in a lantern so constructed as to show a clear, uniform, and unbroken light visible all round the horizon at a distance of at least 2 miles.

(b) A vessel of 150 feet or upwards in length, when at anchor, shall carry in the forepart of the vessel, at a height of not less than 20 feet above the hull, one such light, and at or near the stern of the vessel and at such a height that it shall be not less than 15 feet lower than the forward light, another such light. Both these lights shall be visible all round the horizon at a distance of at least 3 miles.

(c) Between sunrise and sunset every vessel when at anchor shall carry in the forepart of the vessel, where it can best be seen, one black ball not less than 2 feet in diameter.

(d) A vessel engaged in laying or in picking up a submarine cable or navigation mark, or a vessel engaged in surveying or underwater operations, when at anchor, shall carry the lights or shapes prescribed in Rule 4 (c) in addition to those prescribed in the appropriate preceding sections of this Rule.

(e) A vessel aground shall carry by night the light or lights prescribed in sections (a) or (b) and the two red lights prescribed in Rule 4 (a). By day she shall carry, where they can best be seen, three black balls, each not less than 2 feet in diameter, placed in a vertical line one over the other, not less than 6 feet apart.

(f) A seaplane on the water under 150 feet in length, when at anchor, shall carry, where it can best be seen, a white light, visible all round the horizon at a distance of at least 2 miles.

(g) A seaplane on the water 150 feet or upwards in length, when at anchor, shall carry, where they can best be seen, a white light forward and a white light aft, both lights visible all round the horizon at a distance of at least 3 miles; and, in addition, if the seaplane is more than 150 feet in span, a white light on each side to indicate the maximum span, and visible, so far as practicable, all round the horizon at a distance of 1 mile.

(h) A seaplane aground shall carry an anchor light or lights as prescribed in sections (f) and (g), and in addition may carry two red lights in a vertical line, at least 3 feet apart, so placed as to be visible all round the horizon.

Rule 12.

Every vessel or seaplane on the water may, if necessary in order to attract attention, in addition to the lights which she is by these Rules required to carry, show a flare-up light or use a detonating or other efficient sound signal that cannot be mistaken for any signal authorised elsewhere under these Rules.

Rule 13.

(a) Nothing in these Rules shall interfere with the operation of any special rules made by the Government of any nation with respect to additional station and signal lights for ships of war, for vessels sailing under convoy, or for seaplanes on the water;

or with the exhibition of recognition signals adopted by ship-owners, which have been authorised by their respective Governments and duly registered and published.

(b) Whenever the Government concerned shall have determined that a naval or other military vessel or waterborne seaplane of special construction or purpose cannot comply fully with the provisions of any of these Rules with respect to the number, position, range or arc of visibility of lights or shapes, without interfering with the military function of the vessel or seaplane, such vessel or seaplane shall comply with such other provisions in regard to the number, position, range or arc of visibility of lights or shapes as her Government shall have determined to be the closest possible compliance with these Rules in respect of that vessel or seaplane.

Rule 14.

A vessel proceeding under sail, when also being propelled by machinery, shall carry in the daytime forward, where it can best be seen, one black conical shape, point upwards, not less than 2 feet in diameter at its base.

Rule 15.

(a) A power-driven vessel shall be provided with an efficient whistle, sounded by steam or by some substitute for steam, so placed that the sound may not be intercepted by any obstruction, and with an efficient fog-horn, to be sounded by mechanical means, and also with an efficient bell. A sailing vessel of 20 tons or upwards shall be provided with a similar fog-horn and bell.

(b) All signals prescribed by this Rule for vessels under way shall be given:—

- (i) by power-driven vessels on the whistle;
- (ii) by sailing vessels on the fog-horn;
- (iii) by vessels towed on the whistle or fog-horn.

(c) In fog, mist, falling snow, heavy rainstorms, or any other condition similarly restricting visibility, whether by day or night, the signals prescribed in this Rule shall be used as follows:—

- (i) A power-driven vessel making way through the water, shall sound at intervals of not more than 2 minutes a prolonged blast.
- (ii) A power-driven vessel under way, but stopped and making no way through the water, shall sound at intervals of not more than 2 minutes two prolonged blasts, with an interval of about 1 second between them.
- (iii) A sailing vessel under way shall sound, at intervals of not more than 1 minute, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession.
- (iv) A vessel when at anchor shall at intervals of not more than 1 minute ring the bell rapidly for about 5 seconds. In vessels of more than 350 feet in length the bell shall be sounded in the forepart of the vessel, and in addition there shall be sounded in the after part of the vessel, at intervals of not more than 1 minute for about 5 seconds, a gong or other instrument, the tone and sounding of which cannot be confused with that of the bell. Every vessel at anchor may in addition, in accordance with Rule 12, sound three blasts in succession, namely, one short, one prolonged, and one short blast, to give warning of her position and of the possibility of collision to an approaching vessel.
- (v) A vessel when towing, a vessel engaged in laying or in picking up a submarine cable or navigation mark,

and a vessel under way which is unable to get out of the way of an approaching vessel through being not under command or unable to manoeuvre as required by these Rules shall, instead of the signals prescribed in subsections (i), (ii) and (iii) sound, at intervals of not more than 1 minute, three blasts in succession, namely, one prolonged blast followed by two short blasts.

- (vi) A vessel towed, or, if more than one vessel is towed, only the last vessel of the tow, if manned, shall, at intervals of not more than 1 minute, sound four blasts in succession, namely, one prolonged blast followed by three short blasts. When practicable, this signal shall be made immediately after the signal made by the towing vessel.
- (vii) A vessel aground shall give the signal prescribed in sub-section (iv) and shall, in addition, give three separate and distinct strokes on the bell immediately before and after each such signal.
- (viii) A vessel of less than 20 tons, a rowing boat, or a sea-plane on the water, shall not be obliged to give the above-mentioned signals, but if she does not, she shall make some other efficient sound signal at intervals of not more than 1 minute.
- (ix) A vessel when fishing, if of 20 tons or upwards, shall at intervals of not more than 1 minute, sound a blast, such blast to be followed by ringing the bell; or she may sound, in lieu of these signals, a blast consisting of a series of several alternate notes of higher and lower pitch.

Rule 16.

Speed to be moderate in fog, etc.

(a) Every vessel, or seaplane when taxi-ing on the water, shall, in fog, mist, falling snow, heavy rainstorms or any other condition similarly restricting visibility, go at a moderate speed, having careful regard to the existing circumstances and conditions.

(b) A power-driven vessel hearing, apparently forward of her beam, the fog-signal of a vessel the position of which is not ascertained, shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until danger of collision is over.

PART C.—STEERING AND SAILING RULES.*Preliminary.*

1. *In obeying and construing these Rules, any action taken should be positive, in ample time, and with due regard to the observance of good seamanship.*

2. *Risk of collision can, when circumstances permit, be ascertained by carefully watching the compass bearing of an approaching vessel. If the bearing does not appreciably change, such risk should be deemed to exist.*

3. *Mariners should bear in mind that seaplanes in the act of landing or taking off, or operating under adverse weather conditions, may be unable to change their intended action at the last moment.*

Rule 17.

When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other, as follows:—

(a) A vessel which is running free shall keep out of the way of a vessel which is close-hauled.

- (b) A vessel which is close-hauled on the port tack shall keep out of the way of a vessel which is close-hauled on the starboard tack.
- (c) When both are running free, with the wind on different sides, the vessel which has the wind on the port side shall keep out of the way of the other.
- (d) When both are running free, with the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward.
- (e) A vessel which has the wind aft shall keep out of the way of the other vessel.

Rule 18.

(a) When two power-driven vessels are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other. This Rule only applies to cases where vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two vessels which must, if both keep on their respective courses, pass clear of each other. The only cases to which it does apply are when each of two vessels is end on, or nearly end on, to the other; in other words, to cases in which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own; and by night, to cases in which each vessel is in such a position as to see both the sidelights of the other. It does not apply, by day, to cases in which a vessel sees another ahead crossing her own course; or, by night, to cases where the red light of one vessel is opposed to the red light of the other or where the green light of one vessel is opposed to the green light of the other or where a red light without a green light or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead.

- (b) For the purposes of this Rule and Rules 19 to 29 inclusive,

except Rule 20 (b), a seaplane on the water shall be deemed to be a vessel, and the expression "power-driven vessel" shall be construed accordingly.

Rule 19.

When two power-driven vessels are crossing, so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of the other.

Rule 20.

(a) When a power-driven vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, except as provided in Rules 24 and 26, the power-driven vessel shall keep out of the way of the sailing vessel.

(b) A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with these Rules.

Rule 21.

Where by any of these Rules one of two vessels is to keep out of the way, the other shall keep her course and speed. When, from any cause, the latter vessel finds herself so close that collision cannot be avoided by the action of the giving-way vessel alone, she also shall take such action as will best aid to avert collision (see Rules 27 and 29).

Rule 22.

Every vessel which is directed by these Rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead of the other.

Rule 23.

Every power-driven vessel which is directed by these Rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.

Rule 24.

(a) Notwithstanding anything contained in these Rules, every vessel overtaking any other shall keep out of the way of the overtaken vessel.

(b) Every vessel coming up with another vessel from any direction more than 2 points ($22\frac{1}{2}$ degrees) abaft her beam, *i.e.*, in such a position, with reference to the vessel which she is overtaking, that at night she would be unable to see either of that vessel's sidelights, shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these Rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

(c) If the overtaking vessel cannot determine with certainty whether she is forward of or abaft this direction from the other vessel, she shall assume that she is an overtaking vessel and keep out of the way.

Rule 25.

(a) In a narrow channel every power-driven vessel when proceeding along the course of the channel shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such vessel.

(b) Whenever a power-driven vessel is nearing a bend in a channel where a power-driven vessel approaching from the other direction cannot be seen, such vessel, when she shall have arrived within one-half mile of the bend, shall give a signal by one prolonged blast of her whistle, which signal shall be answered by a similar blast given by any approaching power-driven vessel that may be within hearing around the bend. Regardless of whether an approaching vessel on the farther side of the bend is heard, such bend shall be rounded with alertness and caution.

Rule 26.

All vessels not engaged in fishing shall, when under way, keep out of the way of any vessels fishing with nets or lines or trawls. This Rule shall not give to any vessel engaged in fishing the right of obstructing a fairway used by vessels other than fishing vessels.

Rule 27.

In obeying and construing these Rules due regard shall be had to all dangers of navigation and collision, and to any special circumstances, including the limitations of the craft involved, which may render a departure from the above Rules necessary in order to avoid immediate danger.

PART D.—MISCELLANEOUS.**Rule 28.**

(a) When vessels are in sight of one another, a power-driven vessel under way, in taking any course authorised or required by these Rules, shall indicate that course by the following signals on her whistle, namely:—

One short blast to mean "I am altering my course to starboard."

Two short blasts to mean "I am altering my course to port."

Three short blasts to mean "My engines are going astern."

(b) Whenever a power-driven vessel which, under these Rules, is to keep her course and speed, is in sight of another vessel and is in doubt whether sufficient action is being taken by the other vessel to avert collision, she may indicate such doubt by giving at least five short and rapid blasts on the whistle. The giving of such a signal shall not relieve a vessel of her obligations under Rules 27 and 29 or any other Rule, or of her duty to indicate any action taken under these Rules by giving the appropriate sound signals laid down in this Rule.

(c) Nothing in these Rules shall interfere with the operation of any special rules made by the Government of any nation with respect to the use of additional whistle signals between ships of war or vessels sailing under convoy.

Rule 29.

Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

Rule 30.

Reservation of Rules for Harbours and Inland Navigation.

Nothing in these Rules shall interfere with the operation of a special rule duly made by local authority relative to the navigation of any harbour, river, lake, or inland water, including a reserved seaplane area.

Rule 31.

Distress Signals.

When a vessel or seaplane on the water is in distress and requires assistance from other vessels or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, namely:—

- (a) A gun or other explosive signal fired at intervals of about a minute.
- (b) A continuous sounding with any fog-signal apparatus.
- (c) Rockets or shells, throwing red stars fired one at a time at short intervals.
- (d) A signal made by radiotelegraphy or by any other signalling method consisting of the group ----- in the Morse Code.

- (e) A signal sent by radiotelephony consisting of the spoken word "Mayday".
- (f) The International Code Signal of distress indicated by N.C.
- (g) A signal consisting of a square flag having above or below it a ball or anything resembling a ball.
- (h) Flames on the vessel (as from a burning tar barrel, oil barrel, etc.)
- (i) A rocket parachute flare showing a red light.

The use of any of the above signals, except for the purpose of indicating that a vessel or a seaplane is in distress, and the use of any signals which may be confused with any of the above signals is prohibited.

Note.—A radio signal has been provided for use by vessels in distress for the purpose of actuating the auto-alarms of other vessels and thus securing attention to distress calls or messages. The signal consists of a series of twelve dashes, sent in 1 minute, the duration of each dash being 4 seconds, and the duration of the intervals between two consecutive dashes 1 second.

Rule 32.

All orders to helmsmen shall be given in the following sense: right rudder or starboard to mean "put the vessel's rudder to starboard"; left rudder or port to mean "put the vessel's rudder to port."

The Ministry of Transport Notice No. 445, December, 1960, brings to the Notice of Shipowners, Masters and Navigating Officers important changes to the existing International Collision Regulations, agreed upon by the International Conference on Safety of Life at Sea, 1960.

Extracts from Notice No. 445 are:—

NAVIGATION WITH SHIPBORNE RADAR IN REDUCED VISIBILITY

“It may be some years before the New Regulations supersedes those at present in force and it should be clearly understood that until such time the existing Collision Regulations define a Mariner’s statutory obligations with regard to the prevention of collision. On the other hand, a Mariner obeying the provisions concerned with radar and navigating in accordance with the guidance offered in the Annex to the New Rules would not thereby in any way contravene the present Regulations; rather, he would comply with them both in letter and in spirit in a commendable and seamanlike manner. For this reason, the United Kingdom announced to the International Conference its intention of bringing these new provisions to the notice of its Mariners without waiting for the New Rules to come into force and expressed the hope that other Administrations would take a similar course.

“The relevant extracts from the New Rules are set forth below: Part I represents amendments or additions to the body of the Rules and Part II is a reproduction of the Annex to the New Rules.”

Part I

Rule 1 (b)

This rule will contain a New definition in the following terms:—

“Vessels shall be deemed to be in sight of one another only when one can be observed visually from the other.”

Rules 15 and 16

These rules will together form a New “Part C—Sound Signals and conduct in Restricted Visibility,” which will commence with the following:—

Preliminary

(1) The possession of information obtained from radar does not relieve any vessel of the obligation of conforming strictly with the Rules and in particular, the obligations contained in Rules 15 and 16.

(2) The Annex to the Rules contains recommendations intended to assist in the use of radar as an aid to avoiding collision in restricted visibility."

Rule 16 will contain a new section (c) as follows:—

"(c) A power-driven vessel which detects the presence of another vessel forward of her beam before hearing her fog signal or sighting her visually may take early and substantial action to avoid a close quarter situation but, if this cannot be avoided, she shall, so far as the circumstances of the case admit, stop her engines in proper time to avoid collision and then navigate with caution until the danger of collision is over."

The Steering and Sailing Rules.

A new paragraph will be added to the preliminary matter as follows:—

"4. Rules 17 to 24 apply only to vessels in sight of one another."

Part II.

ANNEX TO THE RULES.

RECOMMENDATIONS ON THE USE OF RADAR INFORMATION AS AN AID TO AVOIDING COLLISIONS AT SEA.

(1) Assumptions made on scanty information may be dangerous and should be avoided.

(2) A vessel navigating with the aid of radar in restricted visibility must, in compliance with Rule 16 (a), go at a moderate speed. Information obtained from the use of radar is one of the circumstances to be taken into account when determining moderate speed. In this regard it must be recognised that small vessels, small icebergs and similar floating objects may not be detected by radar.

Radar indications of one or more vessels in the vicinity may mean that "moderate speed" should be slower than a mariner without radar might consider moderate in the circumstances.

(3) When navigating in restricted visibility the radar range and bearing alone do not constitute ascertainment of the position of the other vessel under Rule 16 (b) sufficiently to relieve a vessel of the duty to stop her engines and navigate with caution when a fog signal is heard forward of the beam.

(4) When action has been taken under Rule 16 (c) to avoid a close quarter situation, it is essential to make sure that such action is having the desired effect. Alterations of course or speed or both are matters as to which the Mariner must be guided by the circumstances of the case.

(5) Alteration of course alone may be the most effective action to avoid close quarters provided that:—

- (a) There is sufficient sea room.
- (b) It is made in good time.
- (c) It is substantial, a succession of small alterations of course should be avoided.
- (d) It does not result in a close quarters situation with other vessels.

(6) The direction of an alteration of course is a matter in which the Mariner must be guided by the circumstances of the case. An alteration to starboard, particularly when vessels are approaching apparently on opposite or nearly opposite courses is generally preferable to an alteration to port.

(7) An alteration of speed, either alone or in conjunction with an alteration of course, should be substantial. A number of small alterations of speed should be avoided.

(8) If a close quarters situation is imminent, the most prudent action may be to take all way off the vessel.

CHAPTER XV.

GENERAL NOTICES.

All candidates for Ministry of Transport Certificates are required to be conversant with the general information, *e.g.* Notices regarding distress signals, life-saving, various special signals, etc., contained in Part I and Part II (Annual Supplement) of the Ministry of Transport and Civil Aviation Book of Merchant Shipping Notices for the information of Masters of Foreign-going Ships, Home Trade Ships and Fishing Vessels, which is published in January each year.

In addition, for Foreign-going vessels, the following Notices to Mariners are issued by the Admiralty :—(a) Daily Notices, (b) Weekly (complete) edition of Notices, (c) a Quarterly edition. For Home Trade and Fishing Vessels, the following Notices to Mariners are issued :—(a) Daily Notices, (b) Weekly (home-trade) edition of Notices.

As the information given in these Notices is liable to be altered or cancelled, or new information given, candidates are strongly advised to procure the latest issues, which should be carefully studied, prior to presenting themselves for examination.

The Notices to Mariners may be obtained from any Mercantile Marine Office in the United Kingdom, free of charge.

The following is important information culled from Notices to Mariners :—

Signals used in connection with the Life-Saving Services on the coast of the United Kingdom.

In the event of your ship being in distress off, or stranded on, the coast of the United Kingdom, the following signals shall be used by lifesaving stations when communicating with your ship, and by your ship when communicating with lifesaving stations.

(A) Replies from shore station to distress signals made by a ship :—

<i>Signal.</i>	<i>Signification.</i>
1. By day— <i>white</i> smoke signal. By night— <i>white</i> star rocket.	“ You are seen—assistance will be given as soon as possible.”

(B) Landing signals for the guidance of small boats bringing away the crew of a wrecked ship :—

<i>Signal.</i>	<i>Signification.</i>
1. By day—Vertical motion of a white flag or the arms. By night—Vertical motion of a <i>white</i> light or flare. A range (indication of direction) may be given by placing a steady <i>white</i> light or flare lower and in line with the observer.	“ This is the best place to land.”
2. By day—Horizontal motion of a white flag or arms extended horizontally. By night—Horizontal motion of a <i>white</i> light or flare.	“ Landing here highly dangerous.”
3. By day—Horizontal motion of a white flag, followed by the placing of the white flag in the ground and the carrying of another white flag in the direction to be indicated. By night—Horizontal motion of a <i>white</i> light or flare, followed by the placing of the <i>white</i> light or flare on the ground and the carrying of another <i>white</i> light or flare in the direction to be indicated.	“ Landing here highly dangerous. A more favourable location to land is in the direction indicated.”

(C) Signals to be employed in connection with the use of shore life-saving apparatus :—

<i>Signal.</i>	<i>Signification.</i>
1. By day—Vertical motion of a white flag or the arms. By night—Vertical motion of a <i>white</i> light or flare.	In general—"Affirmative." Specifically—"Rocket line is held." "Tail block is made fast." "Hawser is made fast." "Man is in the breeches buoy." "Haul away."
2. By day—Horizontal motion of a white flag or arms extended horizontally. By night—Horizontal motion of a <i>white</i> light or flare.	In general—"Negative." Specifically—"Slackaway." "Avast hauling."

(D) Signals to be used to warn a ship which is standing into danger :—

<i>Signal.</i>	<i>Signification.</i>
The International Code Signals U. or J.D. The letter U (— · · —) flashed by lamp or made by foghorn, or whistle, etc.	"You are standing into danger."

Note.—If it should prove necessary, the attention of the vessel is called to these signals by a *white* flare, a rocket showing *white* stars on bursting, or an explosive sound signal.

DIRECTIONS FOR USE OF THE ROCKET LIFE-SAVING APPARATUS.

Should lives be in danger and your vessel be in a position where rescue by the Rocket Life-Saving Apparatus is possible, a rocket with line attached will be fired across your vessel.

Get hold of this line as soon as you can. When you have got hold of it, signal to the shore as indicated in (C) 1 above.

Alternately, should your vessel carry a line-throwing appliance and this is first used to fire a line ashore, which line would not be of sufficient strength to haul out the whip, those on shore will secure it to a stouter line and when this is done will signal as indicated in (C) 1 above. On seeing this signal, haul in on the line until the stouter line is on board. Then make the signal as indicated in (C) 1 above, then proceed as follows :—

When you see the signal as indicated in (C) 1 made from the shore, haul upon the rocket line until you get a tail block with an endless fall rove through it (called the whip).

Make the tail block fast, close up, to a convenient position, bearing in mind that the fall should be kept clear from chafing on any part of the vessel, and that space must be left above the block for the hawser. Unbend the rocket line from the whip. When the tail block is made fast and the rocket line unbent from the whip, signal to the shore again as indicated in (C) 1 above.

As soon as this signal is seen on shore a hawser will be bent to the whip, and will be hauled off to the ship by those on shore. Except when there are rocks, piles or other obstructions between the ship and the shore, a bowline will have been made with the end of the hawser round the hauling part of the whip.

When the hawser is got on board, the bowline should be cast off. Then, having seen that the end of the hawser is clear of the whip, the end should be brought up between the two parts of the whip and made fast to the same part of the ship as the tail block BUT JUST ABOVE IT AND WITH THE TALLY BOARD CLOSE UP TO THE POSITION TO WHICH THE END OF THE HAWSER IS SECURED (this will allow the breeches buoy to come right out and will facilitate entry to the buoy).

When the hawser has been made fast on board, unbend the whip from the hawser and see that the bight of the whip

has not been hitched to any part of the vessel and that it runs free in the block. Then signal to the shore as indicated in (C) 1 above.

The men on shore will then set the hawser taut, and by means of the whip will haul off to the ship the Breeches Buoy into which the person to be hauled ashore is to get. He should sit well down in the Breeches Buoy and when he is secure, signal again to the shore as indicated in (C) 1 above, and the men on shore will haul the person in the Breeches Buoy to the shore. When he is landed the empty Breeches Buoy will be hauled back to the ship. This operation will be repeated until all persons are landed.

It may sometimes happen that the state of the weather and the condition of the ship will not admit of a hawser being set up : in such cases a Breeches Buoy will be hauled off by the whip which will be used without the hawser.

The system of signalling must be strictly followed. It should, however, be noted that while the signals referred to in (C) 1 above are made only when the crew have got hold of the rocket line ; when the tail block has been made fast ; when the hawser has been made fast ; and when a person is in the Breeches Buoy ready to be hauled ashore, the rescue operation as a whole will be greatly facilitated if signal communication (by semaphore or flashing lamp) is established between the ship and the shore (or lifeboat). The large majority of Life-Saving Apparatus Companies and Lifeboats have trained signalmen.

During the course of the operations should it be necessary to signal, either from your ship to the shore, or from the shore to your ship, to "Slackaway" or "Avast hauling," this should be done as indicated in (C) 2 above.

All women, children, passengers, and helpless persons, should be landed before the crew of the ship. Masters and crews of stranded vessels should bear in mind that success in landing them by the Rocket Life-Saving Apparatus depends, in a great measure, upon their own coolness and attention to the instructions laid down.

CAUTION WITH REGARD TO SHIPS APPROACHING SQUADRONS, CONVOYS, AIRCRAFT CARRIERS AND OTHER WARSHIPS AT SEA AND AIRCRAFT CARRIERS AT ANCHOR.

Squadrons and Convoys.

(1) The attention of shipowners and mariners is called to the danger to all concerned which is caused by single vessels approaching a squadron of warships, or merchant vessels in convoy, so closely as to involve risk of collision, attempting to pass ahead of, or through such a squadron or convoy.

(2) Mariners are therefore warned that single vessels should adopt early measures to keep out of the way of a squadron or convoy.

(3) Although a single vessel is advised to keep out of the way of a squadron or convoy, this does not entitle vessels sailing in company to proceed without regard to the movements of the single vessel. Vessels sailing in a squadron or convoy should accordingly keep a careful watch on the movements of any single vessel approaching the squadron or convoy and should be ready in case the single vessel does not keep out of the way, to take such action as will best aid to avert collision.

Aircraft Carriers.

(4) Attention is also drawn to the uncertainty of the movements of aircraft carriers, which must usually turn into the wind when aircraft are taking off or landing.

(5) Furthermore, Mariners are warned that by night aircraft carriers have:—

(a) their steaming lights placed permanently off the centre line of the ship, and at considerably reduced horizontal separation,

(b) alternative positions for their side lights:—

(i) on either side of the hull.

(ii) on either side of the island structure, in which case the port bow light may be as much as 100 feet from the port side of the ship.

(6) Certain aircraft carriers exhibit anchor lights as follows:—
Four *white* lights located in the following manner:—

In the forward part of a vessel at a distance of not more than 5 feet below the flight deck, two lights in the same horizontal plane, one on the port side and one on the starboard side.

In the after part of the vessel at a height of not less than 15 feet lower than the forward lights, two lights in the same horizontal plane, one on the port side and one on the starboard side.

Each light visible over an arc of at least 180°. The forward lights visible over a minimum arc from one point on the opposite bow to one point from right astern on their own side, and the after lights from one point on the opposite quarter to one point from right ahead on their own side.

Replenishment-at-Sea.

(7) British and Allied Warships in conjunction with auxiliaries frequently exercise Replenishment-at-Sea. While doing so the two or more ships taking part are connected by jackstays and hoses. They display the "Not Under Command" signals prescribed by Rule 4 of the International Regulations for Preventing Collisions at Sea, 1948.

(8) Mariners are warned that while carrying out these exercises the ships are severely restricted both in manoeuvrability and speed and it is the duty of other vessels to keep well clear in accordance with Rule 27 of the above Regulations.

Certain Warships—Positions of Steaming Lights.

(9) Certain other warships which, in accordance with Rule 13 of the International Regulations for Preventing Collisions at Sea, cannot comply fully with the requirements as to the number and positioning of lights, comply as closely as possible.

The following vessels of 150 feet in length, or over, cannot be fitted with a second steaming light owing to their special construction:—Destroyers (including "Daring" class), frigates, ocean and coastal minesweepers and boom working vessels.

(10) In addition, certain cruisers which cannot comply fully as regards the position of the second steaming light have a slightly reduced vertical separation between the two lights.

INFORMATION CONCERNING SUBMARINES.**PART I—WARNING SIGNALS.****(a) Visual Signals.**

1. Mariners are warned that considerable hazard to life may result by the disregard of the following warning signals, which denote the presence of Submarines:—

British vessels fly one of the two International Code Groups "HP" or "OIIY" to denote that Submarines, which may be submerged, are in the vicinity. Vessels are cautioned to steer so as to give a wide berth to any vessel flying either of these signals. If from any cause it is necessary to approach her, vessels should approach at slow speed until warning is given of the danger zone by flags, semaphore or megaphone, &c., a good look-out being kept meanwhile for Submarines whose presence may be only indicated by their periscopes or snorts showing above water.

A Submarine submerged at a depth too great to show her periscope, may sometimes indicate her position by releasing a "smoke candle" which gives off a considerable volume of smoke on first reaching the surface. Her position may sometimes be indicated by red-and-white or red-and-yellow buffs or floats, which tow on the surface close astern.

(b) Pyrotechnics and Smoke Candles.

2. The following signals are used by a submerged Submarine in a Submarine exercise area.

<i>Signal.</i>	<i>Signification.</i>
One <i>red</i> pyrotechnic light, or smoke, repeated as often as possible.	Keep clear. I am carrying out emergency surfacing procedure. Do not stop propellers. Ships are to clear the area immediately and stand by to render assistance.
Two <i>yellow</i> pyrotechnic lights, or two <i>white</i> or <i>yellow</i> smokes, 3 minutes apart.	Keep clear. My position is as indicated. I intend to carry out surfacing procedure. Do not stop propellers. Ships are to clear the immediate vicinity.

It must not be inferred from the above that Submarines exercise only when in company with escorting vessels.

3. Under certain circumstances warnings that Submarines are exercising in specified areas may be broadcast by a General Post Office radio station.

PART II—NAVIGATION LIGHTS.

4. Submarines may be met on the surface by night, particularly in the vicinity of the following ports:—

Thames Estuary, Portsmouth, Portland, Plymouth, Barrow, Liverpool, Londonderry and Clyde Areas.

5. Hitherto the navigation lights of submarines have been exhibited from the Conning Tower which is near the centre of the vessel. The steaming light, bow lights and overtaking light have been necessarily low down and closely spaced with the result that they give no indication of the submarine's length nor of her exact course or change of course. Consequently they may be mistaken for the lights of a very much smaller vessel of the coaster type.

6. Special arrangements have now been made to fit H.M. Submarines with a second steaming light. The forward steaming light is placed on a special fitting in the fore part of the vessel between 1 and 6 feet above the hull. The main steaming light is fitted on the conning tower or fin. In submarines where the forward steaming light is appreciably less than 6 feet above the hull, and may in consequence be lower than the coloured side lights, the overall arrangement of lights as seen from other vessels may appear unusual. In addition, the vertical separation in some cases is less than 15 feet.

The overtaking light is placed on a special fitting near the stern of the vessel but may be at a height considerably less than that of the side lights.

PART III—SUNKEN SUBMARINE.

7. A bottomed submarine which is unable to surface will try to indicate her position by the following methods:—

(a) Releasing an indicator buoy (which carries a vertical whip aerial) as soon as the accident occurs.

(b) On the approach of surface vessels and at regular intervals by firing candles giving off yellow or white smoke. As far as possible yellow candles will be used by day.

Note.—It should be remembered that it may be impossible for a submarine to fire her smoke candles. Correspondingly a partially flooded submarine may have only a certain number of her smoke candles available and searching ships should not therefore expect many to appear.

(c) Pumping out oil fuel or lubricating oil.

(d) Blowing out air.

8. British and some Allied submarines are fitted with two Indicator Buoys, one each end of the ship, which can be released from inside in case of emergency or if for any reason the submarine is unable to surface. A description of the Indicator Buoy, which will be marked with the submarine's name, is given in paragraph 17.

9. In any submarine accident time is the most vital factor affecting the chances of rescue of survivors, and as the sighting of an indicator buoy may be the first intimation that an accident has in fact occurred, it is vital that no time should be lost in taking action.

10. The sighting of any buoy answering the attached description should at once be reported by the quickest available means. When practicable the name of the submarine should be included in the report.

11. Indicator buoys are attached to the submarine by a length of wire which does not exceed 600 feet. If a buoy is sighted in depths of water greater than 100 fathoms therefore it is certain to be adrift and this fact should also be reported as soon as possible. It is, however, quite possible for indicator buoys to break adrift accidentally even though the parent submarine may not have sunk. In any case, it is therefore important to establish by the most seamanlike practicable means whether or not the buoy is adrift. In this connection it should be noted that the mooring wire is $\frac{1}{2}$ inch galvanised acid grade steel wire rope with a nominal breaking strain of 1 ton. Its total weight in water is 4.3 lb. per 100-foot length. Although, if no other means is available, the lowering of a boat and the weighing of the wire by hand is permissible, very great care should be exercised in this operation since it is absolutely vital not to part the wire. In no circumstances should the boat be secured to the buoy or turns taken on the wire once it has been established that the latter is not adrift. If the buoy is found to be adrift this is not necessarily

an indication that all is well since it may have broken adrift after being deliberately released following a submarine accident.

12. At any time after a submarine accident survivors may start attempting to escape. Conditions inside are likely to deteriorate rapidly and postponement of escapes will only be made in order to allow rescue ships time to reach the scene. Any ship finding a moored submarine indicator buoy should not therefore leave the position but should stand by well clear ready to pick up survivors. The latter will ascend nearly vertically, and it is plainly important plenty of sea room is given to enable them to do so in safety. On arrival on the surface men may be exhausted or ill, and if circumstances are favourable therefore the presence of a boat already lowered is very desirable. Some men may require recompression chamber, and it will therefore be the aim of the Naval authorities to get such a chamber to the scene as soon as possible.

13. In order that those trapped in the submarine shall be made aware that help is at hand Naval vessels drop small charges into the sea which can be heard from inside the submarine. There is no objection to the use of small charges for this purpose; but it is vital that they are not dropped too close since men in the process of making ascents are particularly vulnerable to under water explosions, and may easily receive fatal injuries. A distance of a quarter of a mile is considered to be safe. If no small charges are available, the running of an echo sounder or the banging of the outer skin of the ship's hull with a hammer from a position below the water-line is likely to be heard in the submarine, and such banging and/or sounding should therefore be carried out at frequent intervals.

14. Submarines may at any time release pyrotechnic floats which on reaching the surface burn with flame and/or smoke thus serving to mark the position of the wreck. They are likely to acknowledge sound signals by this means.

15. To sum up, the aims of a submarine Rescue operation are:

- (a) To fix the exact position of the submarine.
- (b) To get a ship standing by to pick up survivors, if practicable with boats already lowered.

(c) To get medical assistance to survivors picked up.

(d) To get a Diver's recompression chamber to the scene in case this is required by those seriously ill after being exposed to great pressure.

(e) To inform the trapped men that help is at hand.

16. There is a large Naval organisation designed to fulfil these aims, which is always kept at instant readiness for action. It is clear, however, that any ship may at any time find evidence of a submarine disaster, and if she takes prompt and correct action as described above she may be in a position to play a vital part.

17. Description of Submarine Indicator Buoy.

Modern submarine indicator buoys are made of aluminium and are cylindrical in shape. They are 2 ft. 3 in. in diameter and $18\frac{1}{2}$ in. deep, and there is a cylindrical projection on the bottom about 6 in. deep. On the sides are two fittings which carry a stirrup, from which is suspended a length (not exceeding 600 feet) of $\frac{1}{2}$ in. circumference steel mooring wire. The buoys float end up with a freeboard of about 6 in.

A light which flashes approximately twice every second for at least 40 hours is mounted in the centre of the top surface. In darkness, and during good weather, the visibility of the light without binoculars is 3500 yards. A ring carrying "cat's-eye" reflectors is fitted around the base of the light, the reflectors being for the purpose of reflecting searchlight beams from the search ships.

The buoys carry a vertical whip aerial. Each buoy is coated with a high visibility paint called "International Orange". For identification purposes, the following inscription is carried on each buoy around the top surface:—"H.M.S. (Submarine's name). Finder inform Navy, Coastguard or Police. Do not secure to or touch". The lettering on the forward buoy is white, and black on the after buoy.

The buoys are fitted with an automatic transmitting radio unit operating on 4340 kc/s.

The signal transmitted automatically when the indicator buoy is released is as follows:—

<i>Transmission.</i>	<i>Number of Repetitions.</i>	<i>Duration.</i>
3 figure serial number	3 times	30 seconds.
S.O.S.	6 "	30 "
SUBSUNK	3 "	30 "
Long Mark	Once	30 "

The whole message will be made twice through giving a total transmitting time of 4 minutes. There will be silence for the next 6 minutes. Thereafter the complete 10-minute cycle will be repeated.

Ships hearing this signal should report to Navy or Coastguard giving their position and, if possible, an indication of signal strength.

18. The accompanying plates show submarine indicator buoy, smoke candles fired from submarines, sonobuoys, aircraft float, smoke and flame, and markers.

White Smoke Candles. These are fired from submarines to indicate their position. They burn for up to 15 minutes emitting white smoke and flame and can thus be seen by day or night; they can easily be confused with aircraft marine markers and floats, smoke and flame.

Yellow Smoke Candles. These are fired from submarines to indicate their position. They burn for about 5 minutes emitting yellow smoke. They can be seen more easily than the white smoke candle in rough weather but cannot be seen at night.

Sonobuoys. These are dropped from aircraft to detect submarines and may be encountered anywhere at sea. Other countries have similar sonobuoys but their colour and dimensions are not known.

The above may frequently be met with in areas where H.M. Ships and Aircraft exercise, whether or not submarines are present, and should not be confused with submarine indicator buoys. In case of doubt the object should be approached to confirm, visually, whether or not it is a submarine indicator buoy before reporting it.

COMMUNICATION FROM AIRCRAFT TO SHIPS OR COAST STATIONS; DISTRESS, URGENCY AND SAFETY SIGNALS TO BE EMPLOYED.

The internationally recognised procedure for communication from aircraft to ships or coast stations is as shown below. It should be noted that the general listening wave of most ships and of all coast stations is 500 kc/s (600m.), type A2.

All stations in the maritime mobile service who normally keep watch on W/T M.F. must, during their hours of service, keep watch on 500 kc/s for 3 minutes, commencing at 15 and 45 minutes past each hour.

SECTION I. DISTRESS SIGNALS.

The following are to be employed only when an aircraft is threatened by grave and imminent danger and requires immediate assistance.

(1.) By Radiotelegraphy.

The international distress signal SOS, sent three times in the Morse code, thus:—

— — — — —
followed by the word DE sent once, the call sign of the aircraft in distress sent three times, its position (preferably as a true bearing and distance in nautical miles from a known geographical point or, alternatively, in terms of latitude and longitude), the nature of the distress, and the kind of assistance desired.

Distress signals by radiotelegraphy, addressed to ships or coast stations, should be transmitted on type A2 waves on the frequency of 500 kc/s (600 metres).

It cannot be assumed as a general rule that an aircraft will have sufficient time to precede the distress call by the auto-alarm signal. In consequence the distress call would be made first, followed when time permits by the auto-alarm signal and a repetition of the distress call. (*Note:* The automatic alarm signal, which is for the purpose of attracting the attention of ships equipped with the auto-alarm, consists of a series of twelve dashes in one minute, each dash being of four seconds duration, the duration of the interval between successive dashes being one second. It is important to adhere strictly to this spacing, in order to actuate the alarm).

NOTE.—I.C.A.O. communication procedure requires a separate distress call, with 20-second dash (for D/F purposes) to precede the distress message.

(2.) By Radiotelephony.

The international distress call "Mayday" (corresponding to the French pronunciation of "m'aider") spoken three times, thus:—

MAYDAY MAYDAY MAYDAY

followed by the call sign of the aircraft in distress sent three times, and by details of its position and other information as in paragraph (1) above.

Distress signals by radiotelephony addressed to ships or coast stations, should be transmitted on the frequency of 500 kc/s (600 metres). Any replies to calls by R/T on 500 kc/s will, in the majority of cases, be made by W/T.

NOTE.—I.C.A.O. communication procedures require a separate distress call, with a 20-second dash (for D/F purposes) to precede the distress message.

(3.) By Visual Signalling.

(a) Pyrotechnics—

A red pyrotechnical light or a succession of red pyrotechnical lights, or a parachute flare showing a red light.

(b) Flag signalling—

(i) The international code flag signal of distress, consisting of the two-flag group NC.

(ii) A square flag having either above or below it a ball, or anything resembling a ball.

(4.) By Sound Signalling.

A gun or other explosive signal fired at intervals of about one minute.

SECTION II. URGENCY SIGNALS.

The following are to be employed only when an aircraft or other station has a very urgent message to transmit (as a general rule to a specific station or ship), concerning its safety or the safety of any person on board or of any ship or aircraft or person within range of assistance or for an aircraft to report difficulties which may compel it to land prematurely.

(a) By Radiotelegraphy.

The aircraft should prefix the call with the group XXX sent three times, in the Morse code, the letters of each group and the successive groups being clearly separated thus:—

(b) By Radiotelephony.

The aircraft should prefix the call with the word "Panne" (pronounced "Pan") spoken three times, thus:—

PAN PAN PAN

This signal must, whenever possible, be followed by a message giving further information.

(c) By Visual Signalling.

The following visual signals are available for indicating that an aircraft has an "URGENT" message (as defined above) to pass.

(1) The aircraft should fly low round the ship and

Fire a succession of <i>green</i> pyrotechnical lights or make a series of <i>green</i> flashes with daylight signalling apparatus.	{ With the signification	{ I have an urgent message to transmit concerning my own safety (or that of another aircraft, ship or vehicle in the vicinity or the safety of any person on board or within sight).
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The aircraft should then:—

- (a) Pass the message in accordance with the procedure laid down in the International Code of Signals, or,
- (b) Alight alongside the ship.
- (c) If wishing to call the attention of the ship to an aircraft, vessel, or person in distress, cross the projected course of the vessel close ahead at a low altitude, opening and closing the throttle or changing the propeller pitch; then proceed in the requisite direction.

The ship will acknowledge this signal by altering course to the requisite direction.

NOTES.—

- (A) The ship, when *green* pyrotechnical lights or *green* flashes are sighted, will instantly prepare a boat for lowering.
- (B) The ship will acknowledge such visual signals as follows:—
- (i) If a daylight signalling apparatus is carried (by day or night)—By flashing the answering sign, *i.e.*, a succession of T's in the Morse Code.
 - (ii) If no daylight signalling apparatus is carried—
 - (a) *By Day*:—By hoisting the answering pennant close up.
 - (b) *By Night*:—By waving a *white* light in a suitable position as far away as possible from other sources of light on the ship.

N.B.—It should be clearly understood that the visual urgency signals described above are only to be used in circumstances indicated; aircraft having visual messages of a non-urgent nature to communicate should fly low round the ship in order to attract attention and then pass the message. Aircraft should not fly round the ship at a low altitude unless they have a message to pass or some specific duty to perform. Although not yet ratified internationally as a signal, pilots should rock their aircraft laterally when proceeding in the direction in which the ship is to be led.

Should an aircraft wish to indicate that the assistance of the ship is no longer required, she should cross the wake of the ship close astern at a low altitude, opening and closing the throttle or changing the propeller pitch.

(2) Should any aircraft merely wish to indicate that it is in difficulties which compel it to land, the following signals are available:—

- (i) The repeated switching on and off of the landing lights.
- (ii) The repeated switching on and off of the navigation lights.
- (iii) A succession of *white* pyrotechnical lights.

The following are to be employed only when an aircraft wishes to send a message concerning the safety of navigation or a message containing important information relative to meteorological warnings.

The safety signal consists of three repetitions of the group TTT sent in the Morse code with the letters of each group and the successive groups clearly separated from each other, thus:—

NOTE.—I.C.A.O. rules require the inclusion of “CQ” or the call sign of the specific station in the call.

The safety signal consists of the French word "Securite" (pronounced "saycuritay") spoken three times, thus:—

followed by the call sign of the aircraft transmitting the signal
Unless addressed to a specific station, Urgency and Safety
Signals shall be made on 500 kc/s.

Admiralty List of Radio Signals, Vol. I., 1960 pages 369 to 377.
Authority.—Air Ministry. (H.4605/60.)

1. Firing and bombing practices, and defence exercises, take place in a number of areas off the coasts of British Commonwealth and Colonial Territories as well as in foreign waters.

2. In future, and in view of the responsibility of range authorities to avoid accidents, limits of practice areas will not as a rule be shown on charts and descriptions of areas will not appear in the Sailing Directions. Such range beacons, lights and marking buoys as may be of assistance to the Mariner, or targets which might be a danger to navigation, will, however, be shown on charts and when appropriate, mentioned in Sailing Directions.

Lights will be mentioned in the Admiralty List of Lights.

3. The principal types of practices carried out are:—

(a) *Bombing practice from aircraft.*

Warning signals usually shown.

(b) *Air to air, and air to sea or ground firing.*

The former is carried out by aircraft at a large white or red sleeve, a winged target, or flag towed by another aircraft moving on a steady course. The latter is carried out from aircraft at towed or stationary targets on sea or land, the firing taking place to seaward in the case of those on land.

As a general rule, warning signals are shown when the targets are stationary, but not when towed targets are used.

All marine craft operating as range safety craft, target towers or control launches for wireless controlled targets will display, for identification purposes, while in or in the vicinity of the danger area, the following markings:—

(1) A large red flag at the masthead;

(2) A painted canvas strip, 6 feet by 3 feet, with red and white chequers in one-foot squares, on the fore deck or cabin roof.

(c) *Anti-aircraft firing.*

This may be from A.A. guns or machine-guns at a target towed by aircraft as in (b) above, a pilotless target aircraft, or at balloons or kites. Practice may take place from shore batteries or ships.

Warning signals as a rule are shown from shore batteries. Ships fly a red flag.

(d) *Firing from shore batteries or ships at sea at fixed or floating targets.*

Warning signals usually shown as in (c).

(e) *At remote-controlled craft.*

These craft are 68 feet in length and carry not under control shapes and lights, as well as normal navigation lights. Exercises consisting of surface firing by ships, practice bombing, air to sea firing and rocket firing will be carried out against these craft or targets towed by them.

A control craft will keep visual and radar watch up to approximately 8 miles and there will be cover from the air over a much greater range to ensure that other shipping will not be endangered.

(f) *Rocket and Guided Weapons firing.*

These may take the form of (b), (c) or (d) above. All such firings are conducted under Clear (Air and Sea) Range procedure. Devices are generally incorporated whereby the missiles may be destroyed should their flights be erratic.

Warning signals are usually shown as in (c) above.

4. Warning signals, when given, usually consist of red flags by day and *red fixed* or *red flashing* lights at night. The absence of any such signal cannot, however, be accepted as evidence that a practice area does not exist. Warning signals are shown from shortly before practice commences until it ceases.

Ships and aircraft carrying out night exercises may illuminate with bright *red* or *orange* flares.

5. CAUTION.—A vessel may be aware of the existence of a practice area from Local Notices to Mariners or similar method of promulgation and by observing the warning signals or the practice.

The Range Authorities are responsible for ensuring that there should be no risk of damage from falling shell-splinters, bullets, etc., to any vessel which may be in a practice area.

If, however, a vessel finds herself in an area where practice is in progress, she should maintain her course and speed but, if she is prevented from doing this by the exigencies of navigation, it would assist the Range Authority if she would endeavour to clear the area at the earliest possible moment. Furthermore, if projectiles or splinters are observed to be falling near the vessel, all persons on board should take cover.

6. Fishermen operating in the vicinity of firing practice and exercise areas may occasionally bring unexploded missiles or portions of them to the surface in their nets or trawls. These objects may be dangerous and should be treated with great circumspection and jettisoned immediately, no attempt being made to tamper with them or bring them back for inspection by Naval Authorities.

7. It is realised that the foregoing provisions do not apply in all respects in all countries. It is not, however, intended to promulgate by Admiralty Notice information received about firing practice or exercise areas in foreign waters.

Areas are only in force intermittently or over limited periods, and local promulgation or warnings by radio, visual signals or Notices should be such that they will come to the attention of those whose co-operation or instruction is intended.

LIGHTHOUSE SERVICE SIGNALS.

Special Codes of Signals, consisting of cones or other shapes with or without flags of the International Code, have been adopted for the use of vessels employed in the Lighthouse Service.

These signals are not intended for general communication, but for the information only of the above-mentioned vessels and of the lighthouses with which they may communicate.

Cones exhibited for the purposes of weather warning should not be confused with the above special signals.

LIGHT-VESSEL—SIGNALS WHEN OUT OF POSITION.

When any manned light-vessel off the coasts of the United Kingdom and Ireland is driven from her proper position to one where she is of no use as a guide to shipping, the characteristic light will not be shown and the fog signal will not be sounded, but the following signals will be made:—

By Day.—Two large black balls will be shown, one forward and one aft, and the International Code Signal P.C. indicating “I am not in my correct position” will be hoisted.

By Night.—A *red* fixed light be shown at each end of the vessel and *red* and *white* flares shown simultaneously at least every 15 minutes; if the use of flares is impracticable, a *red* light and a *white* light will be displayed simultaneously for about a minute.

COLLISIONS WITH LIGHT-VESSELS.

Caution.—Light-vessels have been run into on several occasions by vessels navigating in their vicinity, and the lives of the men on board the light-vessel have been seriously endangered, the attention of mariners is drawn to the importance of making due

UNIFORM SYSTEM OF MARITIME BUOYAGE

Adopted by the General Lighthouse Authorities of the United Kingdom (1947)

Starboard Hand.—Means that side of the channel which will be on the right hand of the Mariner when going with the main stream of flood tide, or when entering a harbour, river or estuary from seaward.

Port Hand.—Means that side which will be on the left hand of the Mariner in the same circumstances.

Principal Types of Marks.—The Principal types of marks employed are : Conical, can and spherical.

Shapes of Topmarks.—The topmarks for which provision is made are : Cone, can, sphere, diamond, St. George's Cross, "T"

Marking Sides of Channels.—*Starboard-hand marks*—Shape : Conical, Colour : Black, or, for purposes of differentiation, black and white chequers, Topmark (if any) : Black cone, point upwards, or, for purposes of differentiation, a black diamond, except at the entrance to a channel, Light (if any) : White showing 1 or 3 or 5 flashes. *Port-hand marks*—Shape : Can, Colour : Red, or, for purposes of differentiation, red and white chequers, Topmark (if any) : Red can, or, for purposes of differentiation, a red "T", except at the entrance to a channel, Light (if any) : Red showing any number of flashes up to 4, or white showing 2 or 4 or 6 flashes.

Middle Ground Marks.—Marks at the ends of middle grounds have the following characteristics. Shape : Spherical. Colour : R.W.H.B. (red and white horizontal bands) where the main channel is to the *right* or the channels are of *equal* importance. B.W.H.B. (black and white horizontal bands) where the main channel is to the *left*. Topmarks (if any) : (a) Main channel to the *right*. Outer end, a can painted Red, Inner end, a "T" painted Red. (b) Main channel to the *left*. Outer end, a cone painted Black, Inner end, a diamond painted Black. (c) Channels of *equal* importance. Outer end, a sphere painted Red, Inner end, a St. George's Cross painted Red. Light (if any) : As far as possible lights will be distinctive, but no colours will be used other than white or red and neither colour nor rhythm will be such as to lead to uncertainty as to side on which the mark shall be passed.

Mid Channel Marks.—Mid-channel marks serve to indicate the deep water channel or fairway. Shape : To be distinctive and different from the principal characteristic shapes (viz. conical, can and spherical). Colour : B.W.V.S. or R.W.V.S. (black and white or red and white vertical stripes). Topmark (if any) : To be a distinctive shape other than cone, can or sphere. Light (if any) : To be of a character different from neighbouring lights on marks at the sides of the channel.

Isolated Danger Marks.—Shape : Spherical. Colour : Wide black and red horizontal bands separated by a narrow white band. Topmark (if any) : Sphere painted black or red, or half black and half red, horizontally. Light (if any) : White or red with flashing character.

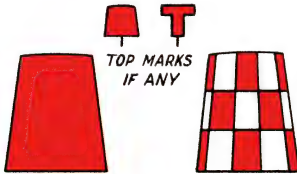
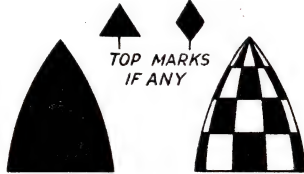







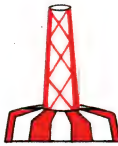
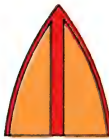




Landfall Marks.—Shape : In accordance with rules for channel marking. Colour : Black and White or Red and White vertical stripes, Light (if any) Flashing character.

NOTE—

Mid Channel Marks.—The usual shape is the pillar buoy and topmarks, if any, may include the double cross (\oplus).

Landfall Marks.—Usually pillar buoys and the topmarks, if any, may include the St. Andrews Cross (\times).

UNIFORM SYSTEM OF MARITIME BUOYAGE

 <p>TOP MARKS IF ANY</p> <p>Port Hand</p>	 <p>TOP MARKS IF ANY</p> <p>Starboard Hand</p>	
<p>OUTER END</p>  <p>TOP MARKS IF ANY</p> <p>INNER END</p> <p>Middle Ground Main Channel to the Right</p>	<p>OUTER END</p>  <p>TOP MARKS IF ANY</p> <p>INNER END</p> <p>Middle Ground Main Channel to the Left</p>	
 <p>Watch Buoy For Light Vessels</p>	<p>OUTER END</p>  <p>TOP MARKS IF ANY</p>  <p>INNER END</p> <p>Middle Ground Channels of Equal Importance</p>	 <p>Spoil Ground</p>
 <p>Practice Area Port Hand</p>	 <p>Mid Channel</p>	 <p>Practice Area Starboard Hand</p>
 <p>Wreck Port Hand</p>	 <p>Wreck Either Hand</p>	 <p>Isolated Danger</p>
 <p>Wreck Starboard Hand</p>		

allowance for the set of the tide and of exercising every precaution in order to GIVE ALL LIGHT-VESSELS A WIDE BERTH, especially when crossing their bows in a tideway, which should never be attempted unless absolutely necessary.

Under Section 666 of the Merchant Shipping Act, 1894, any person wilfully or negligently running foul of any light-ship or buoy is liable, in addition to the expense of making good any damage so occasioned, to a fine not exceeding £50 for each offence.

VESSELS NAVIGATED STERN FOREMOST.

It has been agreed with the owners of British vessels chiefly concerned that the following signal should be displayed by vessels which are fitted with bow-rudders and are navigated stern foremost when entering or leaving certain ports and harbours in the United Kingdom and abroad, to indicate that for the time being they are navigating stern foremost:—

Two balls, each 2 feet in diameter, carried at the ends of a horizontal jackyard on the mast or, if the vessel has more than one mast, on the main or after-mast. The jackyard will be placed in a thwartship direction, at least 6 feet higher than the funnel top and will project at least 4 feet on either side of the mast so that the distance between the centres of the two balls will be at least 8 feet.

Bye-laws giving effect to this arrangement have been made for the ports of Dover, Ramsgate, Holyhead, Larne and Belfast.

BUOYS AND BEACONS.

Wrecks have occurred through undue reliance on buoys and floating beacons always being maintained in their exact position.

They should be regarded simply as aids to navigation and not as infallible marks, especially when placed in exposed positions.

The lights shown by gas buoys cannot be implicitly relied on as, if occulting, the apparatus may get out of order, or the light may be altogether extinguished.

A ship should always, when possible, be navigated by bearings for angles of fixed objects on shore and not by buoys or floating beacons.

VISUAL AND SOUND SIGNALS OF DISTRESS.

Experience has shown that two of the existing statutory distress signals, viz. "a continuous sounding with any fog-signal apparatus" and "flames on the vessel" are not only liable to abuse, but when used as distress signals have often given rise to misunderstanding. A succession of signals on the whistle or siren is frequently made for other purposes than of indicating distress, *e.g.*, for summoning a pilot, and may be mistaken for a "continuous sounding". Similarly working lights and "flare up" lights are authorised for use by fishing vessels and other small craft, and the simplest way of making a "flare up" light is to dip a rag in paraffin and set it alight. Unfortunately small vessels in distress frequently make the signal "flames on the vessel" in the same manner. Thus it is often impossible to decide whether "flare up" lights are being shown or whether distress signals are being made, especially in areas where fishing is carried on. As a result uncertainty and delay have occurred and lives have been lost in consequence.

Distress signals should be as distinctive as possible, so that they may be recognised at once and assistance despatched without delay. Thus, instead of making an indefinite succession of blasts on the fog-signalling apparatus when in distress, mariners should make the "continuous sounding" by repeating the Morse signal, SOS (--- — —) on the whistle or fog horn. If this is done there can be no mistake as to the meaning of the signal. Similarly, by night, if signalling for help by means of a lamp or flashing light, the same signal, SOS, should always be used.

As regards the "flames on the vessel signal", unless the flames making the signal are sufficiently large to attract immediate attention, the chances of being recognised as a distress signal are very poor. The best distress signals are *red* parachute flares or rockets emitting *red* stars, and wherever possible a supply of such signals should be carried. Arrangements should be made to steady rockets to ensure their satisfactory flight when fired. When it is not practicable to use the foregoing types of signals, lifeboat 5 star *red* signals, which can be held in the hand while being discharged, should be provided.

ROCKET SIGNALS, DISTRESS ROCKETS AND LINE-THROWING ROCKETS.

Rocket signals, distress rockets and line-throwing rockets are liable to deteriorate if kept for a long period, and the Ministry of Transport have decided that they should be condemned after a period of two years from the date of manufacture.

Special care should be taken regarding the disposal of these obsolete fireworks. On no account should they be used for testing or practice purposes, or landed for any purpose. They should be kept in a safe place until opportunity occurs for throwing them overboard in deep water well away from land.

DAMAGE TO DRIFT NETS.

Extensive damage has been caused to the nets of drifters fishing in the Firth of Forth, Irish Channel and off the South-West Coast of England and the Scilly Isles, through the failure of both cargo and passenger steamers to comply with the necessary precautions as laid down in the various Sailing Directions.

When passing through a fleet of drift net fishing vessels, it should be borne in mind that these nets often extend for a distance of 4 miles from the drifter, and every care should be taken to avoid damage to the nets when passing through the fleet.

In the Irish Channel where the nets are set from sundown to sunrise, masters are requested to exercise all reasonable care when in this position so as to avoid crossing the nets. Flares are displayed by fishermen when vessels are observed to be bearing down on their train of nets.

TANKERS—USE OF ROCKET LINE-THROWING APPARATUS.

Attention is called to the danger of attempting to establish communication, by means of a rocket line-throwing apparatus, with an oil tanker, should that vessel be carrying petrol spirit or other highly inflammable liquid and be leaking. In such a case THE ASSISTING VESSEL SHOULD LIE TO WINDWARD OF THE TANKER and the communication should be established from the ship requiring assistance. THEREFORE BEFORE FIRING A ROCKET TO SUCH A VESSEL, IT SHOULD BE ASCERTAINED WHETHER IT IS SAFE TO DO SO.

When a vessel in distress is carrying petrol spirit or other highly inflammable liquid and is leaking, the following signals should be exhibited to show that it is dangerous to fire a line carrying rocket by reason of the risk of ignition.

By Day.—Flag B of the International Code of Signals hoisted at the masthead.

By Night.—A red light hoisted at the masthead.

When visibility is bad the above signals should be supplemented by the use of the following International Code signals made in sound:—**MQF** (— — — — —) “It is not safe to fire a rocket.”

Note.—Attention is also called to the International Code signal:—**MQH** (— — — — —) “Is it safe to fire a rocket?”

INFORMATION *RE* FOG SIGNALS.

The following information in regard to fog signals is promulgated for the guidance of mariners.

- (1) Fog signals are heard at greatly varying distances.
- (2) Under certain conditions of atmosphere, when an air fog signal is a combination of high and low tones, one of the notes may be inaudible.
- (3) There are occasionally areas around a fog signal in which it is wholly inaudible.
- (4) A fog may exist a short distance from a station and not be observed from it, so that the signal may not be sounded.
- (5) Some fog signals cannot be started at a moment's notice after signs of fog have been observed.

Mariners are therefore warned that fog signals cannot be implicitly relied upon, and that *the practice of sounding should never be neglected*. Particular attention should be given to placing “Look-out men” in positions in which the noises in the ship are least likely to interfere with the hearing of the sound of an air fog signal; as experience shows that, though such a signal may not be heard from the deck or bridge when the engines are moving it may be heard when the ship is stopped, or from a quiet position It may sometimes be heard from aloft, though not on deck.

There are three means adopted for signalling in fog:—

- (a) By air sound signals comprising (1) *Diaphone*, (2) *Siren*, (3) *Reed*, (4) *Nautophone*, (5) *Gun*, (6) *Explosive*, (7) *Bell* or *Gong*, and (8) *Whistle*.
- (b) By submarine sound signal produced either by (9) an *Oscillator* or (10) *Bell*, and
- (c) By Wireless Telegraphy.

I. Air Fog Signals.

The *Diaphone* (1), *Siren* (2), and *Reed* (3) are all three compressed air instruments fitted with horns for distributing the sound.

The *Diaphone* emits a powerful low-tone note terminating with sharp descending note termed the “grunt”; the *Siren* a medium powered note, either high or low or a combination of the two, and the *Reed*, a high note of less power. *Reeds* may be hand operated in which case the signals from them are of small power.

The *Nautophone* (4) is an electrically operated instrument also fitted with a horn, and emits a high note signal similar in power and tone to that of the *Reed*.

Gun (5) and *Explosive* (6) signals are produced by the firing of explosive charges, the former being discharged from a gun and the latter being exploded in mid-air.

Bells (7) may be operated either mechanically or by wave action, in which latter case the sound is irregular. The notes may be high, medium or low according to the weight of the bell. *Gongs* are also sometimes employed.

A *Whistle* (8) is a signal of low power and tone sometimes fitted on a floating body; when this is the case the sound is produced by air drawn in and compressed during the upward and downward movement of the body due to wave action, and is consequently irregular.

II. Submarine Sound Signals.

The *Oscillator* (9) is an electrically operated instrument sounding a high note signal.

Bells (10) may be operated either mechanically or by wave motion, in which latter case the sound is irregular.

The effective range of submarine sound signals far exceeds that of air sound signals, having been known to exceed 50 miles in the case of an oscillator and 15 miles in that of a bell. Their bearings can be determined with sufficient accuracy for safe navigation in a fog if a vessel is equipped with receivers, and even should a vessel be not so equipped submarine signals may be heard from below the water line for distances which are well outside the range of air fog signals, though their bearings cannot then be so well determined.

III. Wireless Fog Signals.

These are provided for the purpose of position finding.

There are three types employed (11) *Beacon*, (12) *Revolving Beam*, and (13) *Rotating or Loop Stations*.

The *Beacon Station* (11) consists of an all-round wireless transmitter sending out a code signal in every direction, the bearing of which is obtained by means of a wireless direction finder or wireless compass fitted on board ship. When the wireless signal is combined and synchronised with a submarine sound signal distance as well as bearing can be determined.

The *Revolving Beam* station (12) consists of the emission on short wave lengths of wireless signals projected in a narrow beam, a different Morse letter signal being transmitted for each point and half-point of the compass. The navigator listens by means of a special type of wireless receiver (independent of the ordinary W/T installation and hears a series of five or more Morse letters transmitted at a uniform speed, as the revolving beam intersects the ship's course. The middle letter of the series indicates the exact bearing of the ship (derived from a special chart giving the lettered sectors) in relation to her course. By repeating the observations at short intervals and co-ordinating the results with the ship's course and speed, the exact position of the ship can be determined.

The *Rotating Beacon or Loop Station* (13) consists of a medium wave wireless beam transmitter rotating at a uniform speed. A continuous signal is transmitted with special code signals as the beam passes certain points of the compass. These signals are received on a standard wireless receiver and as the beam rotates the signal's strength rises and falls being at a minimum as the beam passes the ship. As the speed of the rotation of the beam

is known, the bearing of the station can be calculated by measuring the time interval between the beam passing a known point of the compass (indicated by the transmission of the code signal referred to above) and passing the ship (indicated by the minimum strength of signal).

FOG SIGNALS.

Sound is conveyed in a very largely capricious way through the atmosphere. Apart from wind large areas of silence have been found in different directions and different distances from the signals, in some instances even when in close proximity to the sound signal.

The mariner should not assume:—

1. That he is out of ordinary hearing distance, because he fails to hear the sound.
2. That because he hears a fog signal faintly, he is a great distance from it.
3. That he is near it, because he hears the sound plainly.
4. That the distance from and the intensity of the sound on any one occasion is a guide to him for any future occasion.
5. That the fog signal has ceased sounding, because he does not hear it even when in close proximity.

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